

**Development of new teachers in higher education:  
interactions with students and other influences upon  
approach to teaching**

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**A thesis presented in fulfilment of the requirements of the  
degree of Doctor of Philosophy**

**The University of Edinburgh**

**August 2008**

I declare that this thesis has been composed by me and that it is my own work. The work has not been submitted for any other degree or professional qualification.

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## Abstract

There is little longitudinal, empirical evidence on which to base our understanding of teacher development in higher education. Although there is an extensive literature about teachers' conceptions of and approaches to teaching, which acts as a useful theoretical foundation, there are a number of limitations in using these broad categories of description for investigating complex experiences such as teaching and teacher development. The aim of the current investigation was to provide an insight into how new lecturers in higher education develop as teachers and to identify some of the main influences upon this development. An important consideration in this was the use of fine-grained analysis to produce a more detailed account of teachers' experiences than the traditional conceptions of teaching categories allow.

The study employed a qualitative, longitudinal design with three semi-structured interviews over a two-year period. The eleven participating teachers had less than two years experience and were from a range of higher education institutions and settings. The teachers were from the subject areas of Sport, Physiotherapy, Psychology and History. Interviews were designed to encourage the participants to describe their everyday teaching experiences. The purpose of this was to ensure that the data represented real and specific instances rather than the questions generating general, idealistic responses. The interviews were transcribed verbatim and analysed based upon the principles of *building theories from case study research*. In the first part of the main analysis, full case studies for three participants were developed to illustrate their experiences of development over the two-year period. This approach allowed for the generation of fine-grained and idiosyncratic insights into how new teachers in higher education typically develop. The second main part of the analysis identified a number of common themes in the data. This stage of the analysis was a highly iterative process that moved between the case studies, the interview transcripts and the literature. A range of criteria were used to check the analysis and ensure its quality.

The principal finding from the current study was the identification of a number of influences upon the new teachers' development. At the core of these influences were *instances of interactions with students*. These instances provided the teachers with richer and fuller feedback about their teaching, which appeared to support their development. There were also a number of other influences upon development, which in themselves impacted upon the amount and level of interaction between the teacher and students. These included *confidence* as a teacher and *familiarity with the teaching situation*, both of which were strongly related to the teacher's *content and pedagogical knowledge*. The final influence, which also was seen to interact with the other influences, was the *peer support and training* received by the teacher in relation to teaching. Despite these common influences the idiosyncratic contextual factors, such as topic to be taught, also emerged as being significant for the way an individual taught and developed as a teacher. Based upon these insights, it is suggested that teacher development could be enhanced by focussing upon specific instances of interactions with students. These instances appear to provide highly specific and tangible moments that allow the conceptual aspects of teaching and development to be discussed, but also give an insight into the real challenges that a particular teacher is facing in their subject at a particular time.

## **Acknowledgements**

I would like to thank my supervisors, Prof. Dai Hounsell and Dr. Velda McCune for their support during the period of this work. Their expertise and personalities have provided me with an extremely effective and balanced research experience. They took me on at a critical time in my research and the learning they have provided me with is beyond description within an acknowledgements section.

The time that the participants gave is extremely appreciated as without their valuable insights the work would not have been possible. I just hope that in some small way I have helped with their teaching.

Also thanks go to York St John University for support in terms of time and finance.

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# **CHAPTER 1 – INTRODUCTION**

## **Introduction**

The current study uses a longitudinal design and fine-grained analysis to investigate the way in which a group of individuals new to higher education developed as teachers in their specific pedagogical context. The aim of this first chapter is to provide the wider context for the investigation. This is progressively focussed from the broad higher education context, to a brief overview of the existing literature on teaching and teacher development in higher education, and finishes with a personal rationale for the study. The second part of the chapter provides an overview of the thesis structure and a brief synopsis of the content of the chapters.

## **Context**

### **Higher education**

Although often difficult to quantify, there is general agreement within the sector that there has been significant change in higher education, particularly over the last two decades (Baume and Baume, 1996). In particular there has been substantial restructuring and changes in financing, which has increased the number and diversity of the students engaging in higher education programmes of study. Alongside this change in climate within higher education there has also been a shift in culture towards one which holds greater concern for the quality of teaching and learning. This shift is indicated in the following extract on reform, from the White Paper on the future of higher education:

Teaching and learning are central to the purpose of higher education. We are committed to understanding better where and how good teaching and learning take place and to take steps to ensure that standards are high and continually improved, and that best practice is effectively shared. (DfES, 2003).

Associated with this there has been a considerable increase in the provision of educational development as universities expect their staff to become better teachers more quickly in order to cope with new types of students and different ways of

teaching (Clark *et al.*, 2002). Accredited training for teachers has been developed in UK higher education institutions and it is now an expectation for all new staff to complete such programmes. In order to provide effective professional development it is important to have an understanding of how teachers and the types of influences that are acting upon them. Surprisingly, particularly in a sector which has a significant remit for undertaking research to inform practice, it appears that we have relatively little empirical evidence to inform the development of teachers.

## Teacher Development

In 1999 Graham Gibbs produced a booklet for the Centre for Higher Education Practice, The Open University entitled 'How teachers learn and develop'. Gibbs', in his booklet, captured a number of related research papers and therefore reflected much of what we knew about the development of new teachers in higher education at this time. Although it brought together a number of extracts from published research it provided a relatively limited and abstract understanding of teacher development. For example, there was only one section which considered research specifically related to the development of new teachers. Nyquist and Wulff (1996) outlined the stages of development of beginning teachers at the University of Washington. Their research provided a general coherent model which was useful as an initial attempt to map teacher development in one particular context. However the other contributions were only loosely related to development in terms of different approaches to teaching (Trigwell *et al.*, 1994) or predominantly theoretically based contributions from non-related areas that had been applied to teaching in higher education (Schön, 1983 and Boud *et al.*, 1985, cited in Gibbs, 1999).

Since this collection of research papers from Gibbs, other authors have attempted to address the question of 'How do professionals learn and develop?' in the context of higher education (Sharpe, 2004). In answering this, Sharpe's approach was to draw upon existing literature that focussed upon theoretical models in relation to professional knowledge, professional values, learning from experience through the process of reflection and the role of communities of practice. However in a similar way to the contribution of Gibbs, described above, these models were only applied to

the context of teacher development with no empirical support from research on developing teachers in higher education. Therefore a study to investigate the influence of concepts such as knowledge, values, learning from experience and the context they work within, upon new teachers' development, would appear to be a significant step forward for the literature. Such a study would allow for the generation of evidence-based recommendations to provide more appropriate support for the day-to-day challenges that new teachers in higher education are facing.

### Student learning research

Despite this lack of research specific to teacher development, there is a body of research which is relatively well established that can be used as a starting point for the investigation of new teachers' development. Such research has been described as the 'student learning' literature (Biggs, 1999) and signalled a significant shift in emphasis away from research by psychologists attempting to identify a 'theory of learning' and towards the study of how individuals go about learning in different contexts. The cornerstone of the student learning literature is an original study from Gothenburg (Marton and Säljö, 1976), which identified different ways in which students went about their learning. This early work with students identified a coherent framework which helps to describe the relationship between student conceptions of learning, their approaches to learning and learning outcomes. Subsequently a number of investigations into how academics went about their teaching in higher education provided findings that appear to parallel these earlier investigations with students. Numerous authors in different countries have undertaken research into how teachers conceptualise and go about their teaching with quite similar categorisations being found (Kember, 1997). In general the consensus appears to be that variation in how individuals view teaching can be characterised as *teacher-centred / content-orientated* compared with those who are *student-centred / learning-orientated*. Prosser and Trigwell (1999) have subsequently presented a model to illustrate how the different elements, which have been investigated in the 'student learning' research domain, interact with one another (Figure 1).

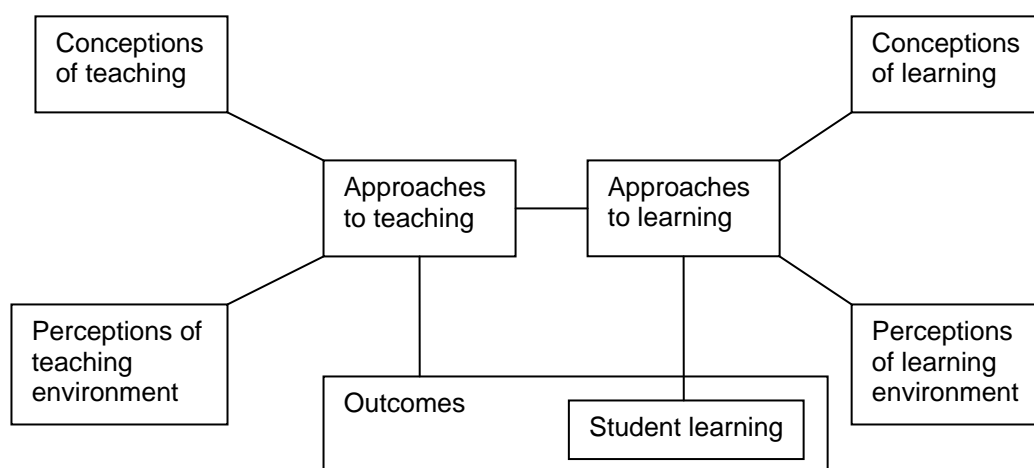


Figure 1.1: Model of student learning (Prosser and Trigwell, 1999)

Despite this seemingly complete picture of learning and teaching in higher education, there are a number of points of contention with such a model, particularly in relation to the development of teachers' conceptions and approaches to teaching. Firstly, the literature has previously inferred that the conceptions of teaching categories represent a process of development (Kember, 1997) that, until a study by McKenzie (2002), had not actually been investigated using a longitudinal research design. Secondly, much of the conceptions of teaching work originated from phenomenographic investigations and there are suggestions that this approach can provide a more coherent impression of a phenomenon than actually exists in reality (Ashworth and Lucas, 1998). Therefore using the conceptions of teaching as the only basis to investigate teacher change and development may provide an over-simplistic view of the experience of being a new teacher in higher education.

### Personal rationale

As a relatively young academic and new teacher, I can anecdotally and retrospectively reflect upon my own development as a teacher as being a far from straightforward process. It contained many moments of realisation and a variety of different influences. Even now, despite holding an awareness of a student-centred / learning-orientated view of teaching I continue to face the challenge of putting this into practice. Such an experience seems to be quite removed from the current literature on teaching and teacher development in higher education which provides

rather abstract and generic insights into teaching. Therefore this literature is limited in helping to understand the idiosyncratic aspects for how an individual teaches and develops. The implication of this could be that we are being insensitive to the actual support needs of new teachers coming into higher education. Such a mismatch between the existing literature and my own personal experience has created a critical personal interest in providing an empirical insight into how a group of teachers in higher education developed over a period of time.

## Structure of the thesis

The following section will provide a description of the structure of the thesis. In order to support this description, Figure 1.2 provides an illustration of the interaction between the research process and the written chapters. This aims to create a useful map that can be referred to when trying to navigate through the study.

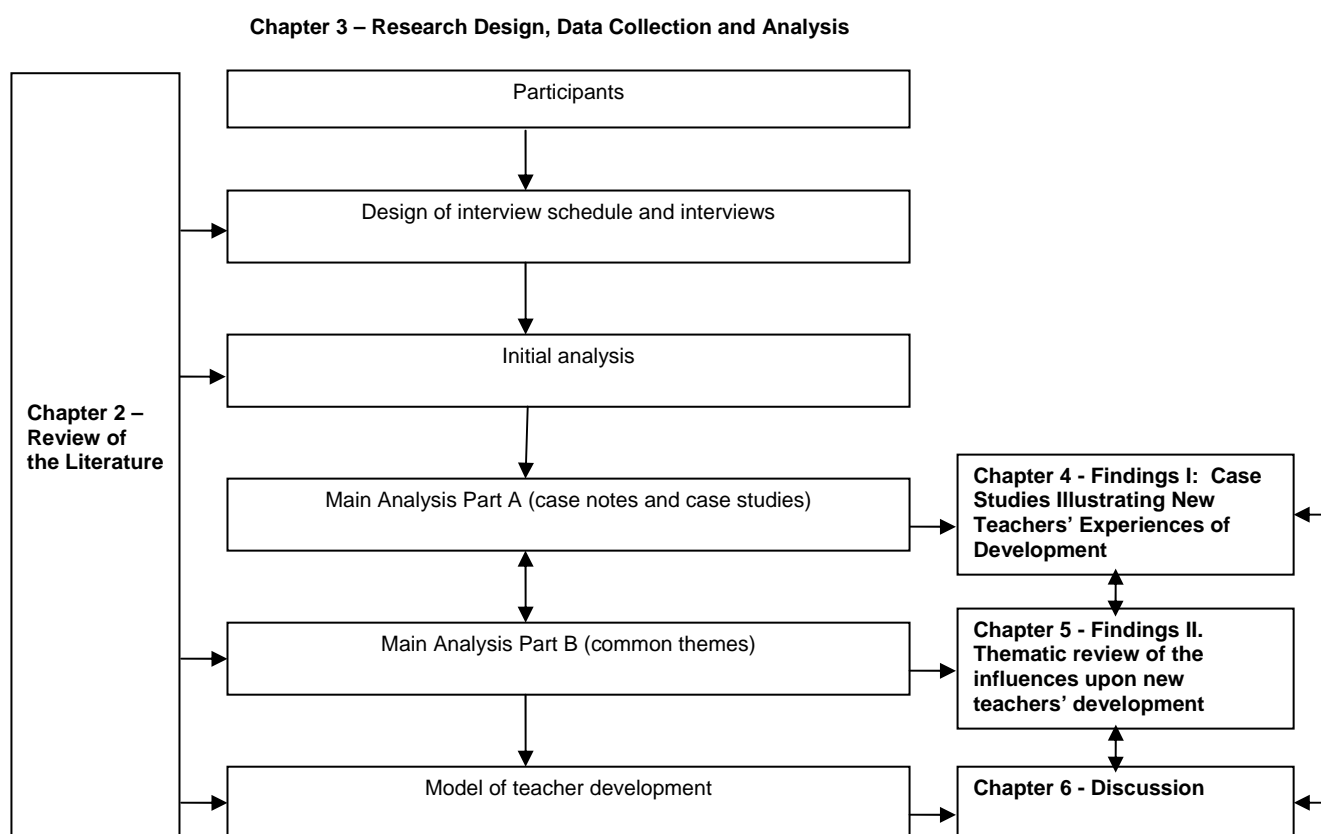


Figure 1.2 Overview of the thesis structure

Chapter 2 provides a backdrop for the present study in relation to previous research in related areas. The chapter begins by providing an overview of the literature on conceptions and approaches to teaching and serves to delimit some of the terminology used within this field of research. This leads into a consideration of research related to variation in the conceptions and approaches to teaching. From this starting point of the conceptions and approaches to teaching categories, the chapter begins progressively to focus and consider issues more pertinent to shaping the current investigation. Therefore the review moves beyond these general categories and outlines the literature that has adopted different perspectives and approaches for understanding teaching and teacher development. The next section addresses research that provides an insight into how contextual issues have been shown to influence teaching and teacher development, such as the subject and the students being taught. The chapter finishes with an outline of proposed models of professional development in general and more specific research undertaken to date into the development of new academics in higher education.

In Chapter 3, an account is given of research design and methods for data collection and analysis. This chapter starts by mapping the methodological traditions within the conceptions and approaches to teaching domain. It then provides a justification for the major methodological decisions taken which include the use of a longitudinal approach, the choice of context and participants, and the decision to collect data using semi-structured interviews. The data collection methods are then described in detail and are followed by an overview of the data analysis process. At this point, the quality criteria used and iterative nature of the qualitative analysis are a major focus. In particular, the principles of *building theories from case study research* (Eisenhardt, 2002) are drawn upon. Chapter 3 also provides an outline of how the findings from the different stages of analysis resulted in the creation of the subsequent findings and discussion chapters.

Chapter 4 is the first of two findings chapters and offers a detailed insight into teaching and development from the perspective of three individuals from different subject areas. The transcripts from three interviews with each individual, over a two-

year period, are combined to create case studies of ‘Alice’, a lecturer in psychology, ‘Kate’, a lecturer in history and ‘Claire’, a lecturer in physiotherapy. Although this approach allows a number of idiosyncratic issues to emerge, there are also a number of more common themes which start to become evident. For example, in each case, instances of interactions with students appear to play an important role in the teachers’ development, and the interaction between the teachers’ confidence and their knowledge becomes apparent.

These emerging themes lead into Chapter 5, which establishes the common themes and the associated sub-themes to come out of analysis of all the interviews from all of the participants in the study. These themes include: how the teachers described their teaching and an insight into how this was seen to change over the period of the interviews; the influences that were acting upon development and the way in which these appeared to interact with one another and the role of context in the participant’s descriptions of teaching and their development.

The findings from Chapters 4 and 5 culminated with the creation of a model that aims to represent the influences acting upon the process of teacher development for these participants. The model is presented and discussed in relation to the existing literature in Chapter 6 which offers a number of new insights into, and perspectives on, the ways in which individuals develop as teachers in higher education. In light of the findings of the current investigation a number of implications for teacher development programmes are outlined. Chapter 6 finishes with the methodological implications that the longitudinal design and fine-grained analysis of the current study suggest for future investigations of teaching in higher education.

## **CHAPTER 2 - REVIEW OF THE LITERATURE**

### **Introduction**

The main sections of this review of the literature are outlined in Table 2.1. The first section of the review considers the literature on conceptions of teaching in higher education. The aim of this body of research has been to identify the different ways in which academics in higher education describe their thinking and actions in relation to their teaching. Such work provides the theoretical starting point for the thesis and the broad area from which the research questions have emerged. This overview of literature on conceptions of teaching attempts to highlight the similarities and variations in the findings from previous investigations in this area.

Section two introduces the debate on the proposed relationships between the principal categories described in section one and considers the stability of the conceptions of teaching. The literature helps to suggest how a teacher might move between the categories and therefore change their conception of teaching. However, the section concludes by identifying the potential limitations of the conceptual categories for understanding teaching and therefore, teacher development. This leads into section three, which moves away from and beyond the conceptual categories.

In the first part of section three, the literature that uses alternative methodologies and approaches is considered. This overview argues for a balance between using overarching theoretical frameworks, such as the conceptions of teaching, and more detailed case studies and illustrative stories in order to better illustrate the complex reality of teaching. The second part of this section provides a review of a much broader body of literature that sits outside of the conceptions of teaching arena. In the second part of the section the extensive literatures on teacher knowledge, reflection and confidence, and the roles these play in teacher development is considered.



The fourth section acknowledges the important role of context for how an individual goes about teaching. In particular the variation that the subject discipline brings to how a teacher teaches and develops is considered. Next follows a focus upon a single aspect of the multi-dimensional act of teaching: teachers' experiences of interactions with students. This dimension is of particular interest in the current study because it appears to be a common and central aspect of the new teachers' experiences of teaching. It therefore acts to provide a rich setting within which to consider teacher development.

Table 2.1: Sections of the review

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1) Overview of the literature on conceptions of, and approaches to, teaching
Qualitative differences in conceptions of teaching and the Kember (1997) review
Terminology: Conceptions and approaches to teaching
Approaches to teaching inventory
More recent work to map the conception of and approaches to teaching
2) Research into change in the conceptual categories
Relationship between the conceptual categories
Research into the development of teachers' conceptions of teaching
3) Beyond the conceptions of teaching for understanding teaching and development
Complementary research into teaching and teacher development
The roles of knowledge, reflection and confidence in teaching and development
4) Specific contextual issues within teaching and teacher development
Relational aspects of teaching and the subject discipline
Experiences of interactions with students
5) Professional development of new academics in higher education
Model of professional development
Research on the development of new academics
6) Summary

---

The fifth and final section reviews some of the generic work on professional learning and development alongside the more pertinent, but limited, literature on models of development of teachers in higher education. Following on from this, a body of quite disparate research, which is highly specific to investigating new teachers and their development in higher education, is considered.

## **Overview of the literature on the conceptions of, and approaches to, teaching**

### **Qualitative differences in conceptions of teaching and the Kember (1997) review**

In a review of thirteen separate studies, Kember (1997) presented a model which provided a categorisation within which the conceptions of teaching could be considered (Figure 2.1). The model depicted two main orientations, with one being predominantly teacher-driven and about the transmission of content, and the other having a greater focus on the student and therefore an awareness of the learning that ensued. Each of these orientations had two sub-conceptions which provided two qualitatively different ways of experiencing teaching. At one extreme there was a conception that related to conceptual change and intellectual development of the student. The characteristics of this conception can be well illustrated from data in a study that was contained within the Kember (1997) review. Prosser *et al.* (1994) undertook a phenomenographic study where they interviewed 24 teachers of chemistry and physics in two different universities. From these transcripts, they found examples of a conception of teaching that was described as a teacher attempting to change the students' world view or way of thinking about the phenomena they were studying. In addition to abstract descriptions of the categories, research in the area tends to use quotations from interviews with teachers. The use of quotes acts not only to provide a more tangible illustration of the conceptions but also to substantiate the existence of a particular category. The following extract, taken from one of the science teachers in the Prosser study, provides an example of an individual describing a conception where teaching was seen as helping students change their conceptions:

...to get people to make predictions about what's going to happen, and then when it doesn't happen, maybe they might backtrack and revise their ideas...What we're trying to achieve in learning physics, is for people to shift their view from the laypersons view, to what we would call a scientific/physicist's view... (Prosser *et al.*, 1994, p225).

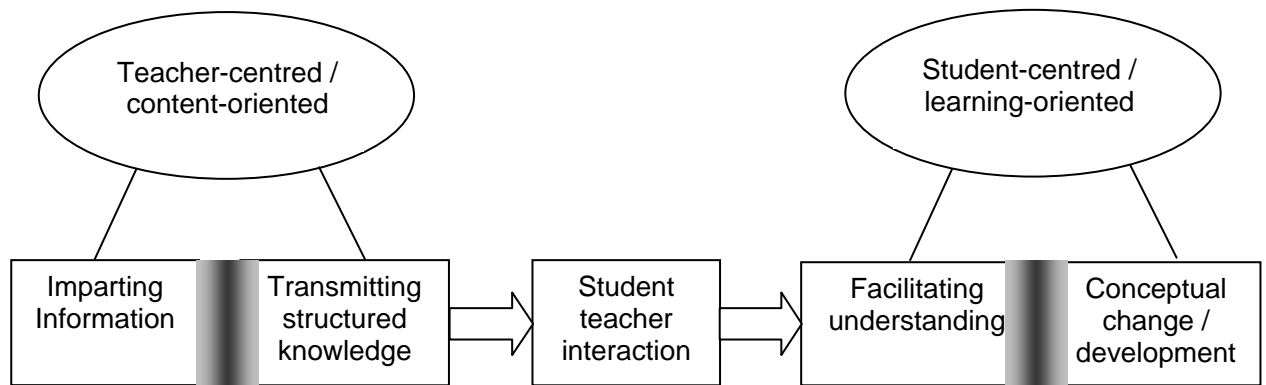


Figure 2.1. A multiple-level categorisation model of conceptions of teaching (Kember, 1997, p264)

At the other extreme of the model was a conception based upon a teacher imparting information to the students. From this conception the student was either not considered at all or is seen as a passive recipient of the subject matter. Data from another study included in the Kember review helps to illustrate this conception particularly well. Samuelowicz and Bain (1992) interviewed thirteen academics from two universities with quite different modes of teaching. These included science and social science lecturers from the Open University (UK) and a more traditional Australian university. Phenomenographic analysis of the semi-structured interview transcripts revealed five qualitatively different conceptions of teaching, with one of these being teaching as imparting information. A teacher who held this conception of teaching described the aim of teaching as:

To get information across to students...I guess it means to act as a vehicle or agent by which people can increase their knowledge and you're the vehicle, you are one of the vehicles by which they can do it (Samuelowicz and Bain, 1992, p101).

Although the description of two orientations and four sub-conceptions by Kember (1997) has generally been well accepted, there is a fifth category that has created substantial debate. This debate is not simply as a result of disagreement over the category description, but the wider meaning that this fifth element has for the nature of academics' conceptions of teaching. The fifth conception marks the mid-point on the continuum and therefore it sits between the two broad orientations of the student-

and teacher-centred view of teaching. Empirically, it appears to be the least stable of the categories as not all of the thirteen studies that Kember reviewed actually identified it. Even those that did identify such a category appeared to differ in their descriptions to a greater extent than they did with the other categories. Kember (1997) labelled this *student-teacher interaction* and it was characterised as being a point of realisation where the teacher came to see the importance of interactions between themselves and the students. It has been described as an intermediate category, but potentially more importantly, it has also been termed ‘transitional’. This category introduces quite a paradox in Kember’s model (Figure 2.1). Kember considers that the categories are best portrayed as established positions within a continuum and the model is used to represent this. However, the existence of this fifth category in the model means that it also indicates a developmental process. Evidence of the existence of this category and the suggestion of a developmental process is well illustrated by the following teacher in a study by Kember and Gow (1994):

Initially, I basically talked and they listened... Now I am trying to get much more...they talk and I listen. And I am there as a guide – to guide them, not to force something down their throats (cited in Kember, 1997, p266).

The transitional category emerges as an important category in the present study in terms of development and therefore this will be considered in more depth towards the end of this section.

### Terminology: Conceptions and approaches to teaching

In drawing together the research on conceptions of teaching, it is necessary to clarify the range of terms and definitions used in the different investigations. Although there is broad agreement in relation to the conceptual categories there has been quite a mix of terminology in the area and some of these terms have remained undefined. There has been quite a jumble of terms used including conception, orientation, belief, approach, strategy and intention. At times, authors appear to have used these interchangeably and yet at others they seem to have quite different meanings and relationships to one another. For example, orientation within Kember’s (1997)

review appears to be a higher level than conception in that two conceptions make up a particular orientation (see Figure 2.1). However, in Samuelowicz and Bain's (1992 and 2001) work they use the term 'orientation' as being synonymous with conception. This term has the potential to create problems, particularly when attempting to draw together a consensus such as in Kember (1997). On the whole *conception* appears as the most central and consistent of terms in the majority of work that Kember reviewed. According to Kember (1997), Pratt is the only author to have defined conceptions:

Conceptions are specific meanings attached to phenomena which then mediate our response to situations involving those phenomena. We form conceptions of virtually every aspect of our perceived world, and in so doing, use those abstract representations to delimit something from, and relate it to, other aspects of our world. In effect, we view the world through the lenses of our conceptions, interpreting and acting in accordance with our understandings of the world (Pratt 1992; cited in Kember, 1997 p256).

Pratt's definition of a conception suggests a relatively stable position in that it is unlikely that an individual would attach a different meaning to a phenomenon every time they came across it. This is not to say that a conception is fixed as change in conception has been shown to occur in a number of studies (for example Martin and Ramsden 1992) that will be more fully reviewed in section two. However, it appears that an individual would not shift their position easily, as a result, say, of day to day variation in context. A second important element of this definition is the importance that is given to the role that conceptions play in our actions. This relationship between conceptions and action is extremely important as this is the basis for the assertion that how we think about teaching influences our practice.

Approach to teaching is the term which is used to reflect how an individual goes about their teaching. As suggested in Pratt's definition, although these approaches or responses are mediated by our conceptions, it does appear that there are other aspects that can influence them. In other words, a particular conception may not always result in a particular approach due to overriding contextual aspects (Murray and MacDonald, 1997). Again, this aspect of the literature will be considered in more detail in section two.

More recently, the terminology and focus of the research into teaching in higher education appears to have evolved towards a concern for *approaches* to teaching. The majority of the work that has investigated approaches to teaching and has differentiated them from conceptions of teaching has been conducted by Prosser and Trigwell (Prosser *et al.*, 1994, Trigwell *et al.*, 1994, Trigwell and Prosser 1996a, and Trigwell and Prosser 1997). The findings, with regards to the conceptions and approaches to teaching, came from analysis of interviews with twenty-four university science teachers. From analysis of the responses around conceptions of teaching, six categories were identified. These were broadly similar to those identified in the Kember (1997) model above, with teaching as transmitting concepts at one extreme and teaching as helping students change their own conceptions at the other (Prosser *et al.*, 1994). In addition, Trigwell *et al.* (1994) noted five different approaches to teaching (A-E), which were constituted from combinations of four intentions and three strategies (see Table 2.2).

Table 2.2. Approaches to teaching as constituted from strategy and intention (Trigwell *et al.*, 1994, p78)

Intention	Strategy		
	Teacher-focussed	Student/Teacher Interaction	Student-Focussed
Information transmission	A		
Concept acquisition	B	C	
Conceptual development			D
Conceptual change			E

An example of how intention and strategy combined to create an approach is that a teacher-focussed strategy, together with an intention of transmitting information produces Approach A. These findings were presented as a logical structure where there was congruence between each strategy and the underlying intention. In addition, there was no evidence in the data that a teacher-focussed strategy could have a conceptual change intention. They suggested that such a finding would have provided an ‘unexpected and illogical relationship’ (Trigwell *et al.*, 1994, p83). There was significant value put upon this finding by the authors and they seemed to consider that the lack of such a finding provided additional support for the validity of

the categories identified. However, this position is contested at a number of points throughout this review, particularly in section two, as such a conclusion suggests a potential limitation in the categories in that it provides a rather simplistic understanding of an extremely complex situation.

Another limitation to this work on approaches to teaching is in relation to the lack of clear differentiation between terms and constructs. In particular the labels used to identify intention appeared to be extremely similar to those used for the conceptions of teaching. For example, Trigwell and Prosser (1997) define one of the approaches they identified as ‘A teacher-focused strategy with the intention of transmitting information to students’ and yet the associated conception was ‘Teaching as transmitting concepts of the syllabus’. From this it is extremely unclear how the intentional element of the approach differentiates from the conception as they both appear to be about transmission of information.

Despite these limitations it would appear that *approaches* to teaching may offer a better start point for investigating teacher development than *conceptions* of teaching. In contrast to Kember (1997), who suggests that a conception is a relatively stable construct, Trigwell and Prosser (1997) consider approaches to teaching as being more temporal and open to variation as a result of different contexts. Although this variation may not necessarily be due to development in investigating change over a relatively short period (i.e. two years), it might be more fruitful to consider variation in approach rather than conception, as development in approach is likely to be more apparent. In addition, approach is more likely to provide an insight into teacher development that is grounded in the day-to-day aspects of teaching. Such a supposition can be supported by the nature of questioning used in semi-structured interviews by Trigwell *et al.* (1994). In order to gain an insight into these different phenomena of conception or approach, quite different levels of questioning were required. Questioning for conceptions of teaching was broad and in the form of ‘What do you mean by teaching in this subject?’ Whereas questions to gain an understanding of approaches were more related to teacher preparation and what they actually did in the classroom. For example ‘Could you describe how you went about

your teaching?’ Consequently, this has distinct implications for the design of the interview questions in the present investigation.

To draw together this range of terminology to create a more coherent picture, a diagram has been created to illustrate how the terms of conceptions, intentions and strategies relate (Figure 2.2). The scale on the left hand side indicates where the terms sit in relation to abstract beliefs, at one end of the scale, and practice or actions, at the other. Conception of teaching is towards the more abstract ‘belief’ end of the scale where variation, as a result of different contexts, is less likely. It also shows how closely the intentional component of approach sits and overlaps with conception. The diagram also illustrates teaching strategy towards the ‘action’ end of the scale and suggests that an individual may opt for various strategies, depending upon the context.

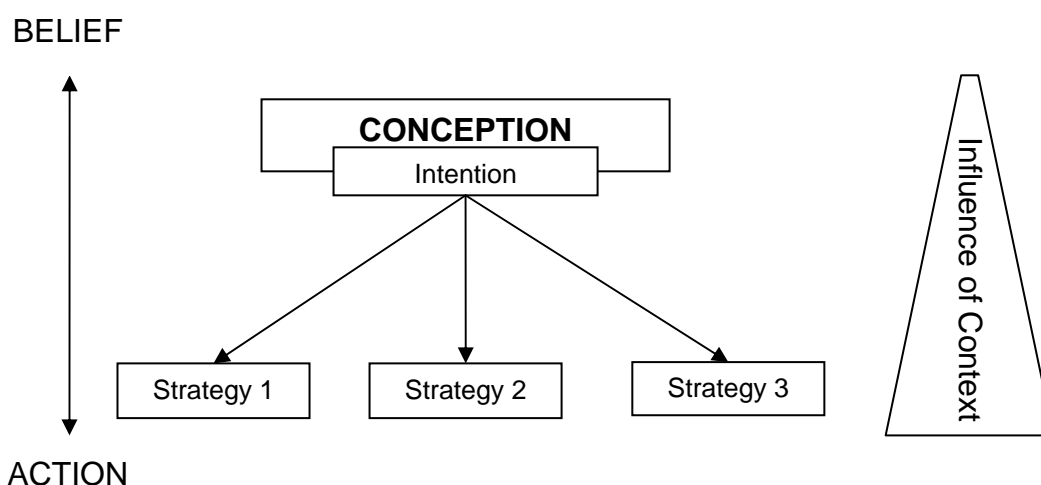


Figure 2.2. Relationship between Conception, Strategy and Intention of teaching for one individual with a particular conception of teaching

### Approaches to teaching inventory

Approaches to teaching, as with the approaches to learning before them, have emerged from qualitative work, often based upon the epistemology of phenomenography. Also in line with the approaches to learning work, this has developed into the creation of inventories for the collection of wider scale



quantitative data. The aim of this was to allow relationships between approaches and other phenomena in the learning and teaching environment to be investigated. Trigwell and Prosser (1996b) developed a tool that was later termed the 'Approaches to Teaching Inventory' (ATI). Factor analysis of the quantitative scores confirmed an expected two factor structure, with information transmission intention and teacher-focussed strategy as one factor and conceptual change intention and student-focussed strategy as the other. The analysis also indicated a congruent relationship between intention and strategy. Such a finding suggested that a teacher who exhibited an intention to transmit information might tend to use a teacher-focused strategy and teachers with a conceptual change intention more commonly use more interactive and student-focused strategies. However, there are a number of concerns with the use of such an instrument for studying how academics go about teaching in higher education.

Firstly, there is the concern that there are a number of complex reasons as to *why* a teacher selects to teach in a particular way, which cannot be recorded on an inventory. Secondly, in much of Trigwell and Prosser's work, the participants were from the discipline of science (e.g. Trigwell *et al.*, 1999). The reason for this was to keep this aspect of the learning and teaching environment the same to ensure any findings were as a result of the approaches of an individual academic and their students and not as a result of variation in subject or departmental influences. However, this also contains a counter argument in that the original inventory emerged from a phenomenographic study with twenty four science teachers (Trigwell *et al.*, 1994). The small sample size and single discipline area of this work raises concerns over the origin of the ATI (Meyer and Eley, 2003). Meyer and Eley suggest that not only could an entire category have been developed from one individual's account of teaching, but the categories could be solely representative of the scientific disciplinary context. However since this the inventory has been checked using a large sample from a range of subject areas and countries (Prosser and Trigwell, 2006).

A third concern with the ATI is the movement into the background of the intermediate category (student-teacher interaction). Trigwell and Prosser (1996b) found that this category actually loaded towards the conceptual change intention and student-focussed strategy rather than sitting between this and the information transfer intention and teacher-focussed strategy. They suggested that there was uncertainty in the earlier qualitative data as to whether a student-teacher interaction strategy included the intention to encourage students to simply acquire concepts or whether the intention was towards developing concepts. In order to maintain congruence of the scales the ATI has focussed upon the two extreme poles. The teacher/student interaction, which acted as an intermediate point on the scale, was removed from the inventory as it had problematic factor loadings. As already alluded to in the review, this dimension of teaching appears to be of some interest in terms of understanding teacher development. As a result the removal of teacher/student interaction from the ATI is likely to limit the use of this tool for such investigations. Therefore although the conceptions of teaching may provide a useful start point with which to investigate teachers, the ATI for tracking development appears to have some limitations.

#### More recent work to map the conception of and approaches to teaching

Despite the consistency of conceptual categories in the Kember (1997) review, authors still continued to further map the conceptions of teaching landscape. Kember and Kwan (2000) undertook a qualitative investigation that aimed to consider the connection between conceptions and approaches to teaching. The premise of this was that a great deal of work had been conducted on conceptions of teaching, yet there was far less on the approaches that teachers took to teaching and how these were influenced by the conceptions that they held. Although Trigwell and Prosser (1996a) had already claimed that conceptions of teaching were related to approaches, Kember and Kwan suggested that this had to be considered with caution. Such a suggestion was based on the labels or constructs for either conceptions or approaches not being adequately defined. Kember and Kwan (2000) argued that there appeared to be significant overlap in the meaning of the terms ‘conception’ and ‘approach’, therefore leaving it as no surprise that a link between the two was claimed. In an attempt to further develop this, Kember and Kwan aimed to characterise approaches

to university teaching and then to match these against conceptions of good teaching. An approach was considered to have an intention and strategy dimension, as with Trigwell and Prosser's work, however this was conceptualised in a slightly different way.

In Trigwell and Prosser's work, the strategies teachers used had three categories of description in their own right and, alongside intention, this helped constitute an approach to teaching. However, Kember and Kwan recognised strategy as a component of teaching approach and, in this instance, it contained five dimensions. Each of these five dimensions had defining characteristics, which sat at either the content- or learning-centred end of the continuum. For example, one of the dimensions within the strategy component was instruction. At the content-centred pole this was defined as the lecturer supplying notes, handouts and references, whereas at the learning-centred pole, it was more about the lecturer supporting the students to discover and construct their own knowledge. As each of the dimensions created a continuum between content- and learning-centred approaches, individual teachers could be positioned along each of the dimensional continua. Based upon this positioning, teachers were characterised as adopting one or the other approach. There was also the suggestion of greater stability in teaching approaches than has previously been identified with students' approaches to learning. Such a view provides a very particular way of looking at the categories and whether this 'one or the other' operates in reality is questionable. They developed their ideas further in the second part of their work, which includes an examination of the relationship between lecturers' approaches and their conceptions of good teaching.

Kember and Kwan (2000) identified two major categories of conceptions of teaching: transmission of knowledge and learning facilitation, with each having two sub-categories. These conceptions were reported to have a high level of correspondence with a lecturer's approach. In the main, those with transmission centred conceptions tended to use content-centred approaches and those with a learning facilitation conception used learning-centred approaches. However, 2 out of the 17 teachers showed unexpected patterns of conception and approach. One held a

transmission of knowledge conception with a learning-centred approach and the other a learning facilitation conception yet a content-centred approach. This finding was not commented on or explained by Kember and Kwan (2000), yet to some extent it brings the nature of the conceptions and approaches into question. Such an approach raises a similar issue to the level of congruence reported in much of Trigwell and Prosser's work. In the next section the issue of congruence, the meaning this has and how it relates to reality will be more fully considered. A second point of contention and point of departure from previous work (Kember 1997) was the absence of the 'transitional' conception, previously labelled as student-teacher interaction. Again, Kember and Kwan only briefly mentioned this and yet it has significant implications, particularly with regard to how the categories can help in understanding transition, change and development of teaching. More detailed analysis regarding the role of this intermediate category came from Samuelowicz and Bain (2001).

In revisiting their original work on academics' conceptions of teaching (Samuelowicz and Bain 1992), Samuelowicz and Bain (2001) also advocated the withdrawal of the intermediate, student-teacher interaction category. They separated the *facilitating learning category*, which was previously considered as the intermediate category, into *providing and facilitating understanding* and *helping students develop expertise*. Rather than the intermediate category, the two new orientations straddled the teaching-centred, learning-centred divide (Figure 2.3). Samuelowicz and Bain justified this as these new categories shared only two out of the nine belief dimensions in common. The creation of two new orientations was also confirmed by changing the codes into a numerical taxonomy, which allowed for the production of a quantitative hierarchical cluster of the seven orientations (see Figure 2.3). From this analysis, two distinct clusters emerged with no evidence of a hybrid orientation. However this would appear to be a significant 'leap' for a teacher to make. Therefore it is likely that something significant may be occurring at this point in terms of a teacher's development and it could be suggested that this may act as a critical threshold for the quality of teaching.

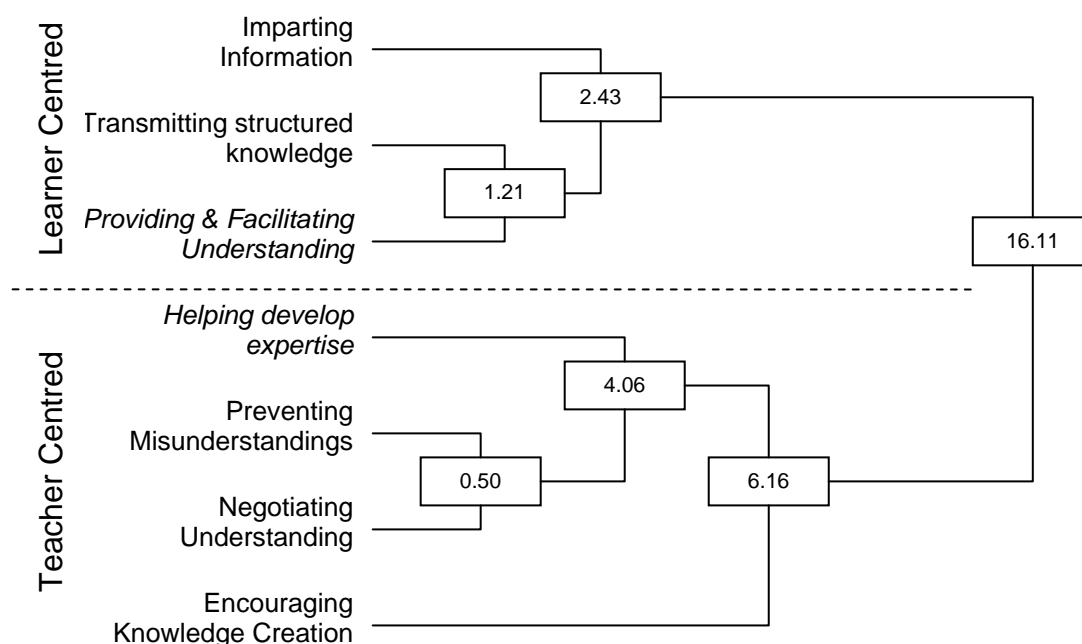


Figure 2.3. Hierarchical clusters of the seven belief orientations showing the distance coefficients at the formation of each cluster (adapted from Samuelowicz and Bain, 2001, p309).

Samuelowicz and Bain (2001) do help to further distinguish between the two orientations on either side of the teaching- and learning-centred divide through the use of illustrative stories. These highlight the notion that, although interaction between the teacher and student is of importance for both of the academics, it is the purpose and nature of this interaction that differentiate the categories. For example, in the case study of the academic who described a *providing and facilitating understanding* orientation, he provided preordained understandings for the students, showed them how to apply knowledge and used interaction to check that they had grasped the concepts. A typical description from such academics regarding how they saw their role was; ‘I give them some facts and then I play with the facts and try to drag answers out of them and try to connect it to many things in the world around them.’ (Samuelowicz and Bain, 2001, p314). The *providing and facilitating understanding* orientation appears to be quite similar in nature to a category identified by Van Driel *et al.* (1997), which was labelled as student-directing. Student-directing was defined as students being engaged in a range of different learning activities, some of which, for example practical sessions, are student-centred by their very nature. However such activities are being almost fully controlled by the

teacher in order to cover subject material and prepare the students for examination. Unlike Samuelowicz and Bain (2001), Van Driel considered this student-directing category to be situated between the two teacher- and student-centred poles. Interestingly, two thirds of the teachers interviewed by Van Driel fell into this category of description. The other orientation on the learning-centred side of the divide, helping develop expertise, was characterised as assisting students to come to their own understandings and therefore interpret concepts and the world in a different way. Although interaction with students is also central to this orientation, it is much more focussed upon the presence of a two-way negotiation of what is being learnt.

Although the *providing and facilitating understanding* and the *developing expertise* orientations are adjacent on the scale (Figure 2.3) and appear to be relatively similar in their appearance, their conceptual variation appears to be particularly large. What appears to be the major factor in this variation is not merely the presence or absence of interaction that differentiates the orientations, but the *intention* informing that interaction that is the critical aspect. Samuelowicz and Bain suggest that the boundary between the teaching- and learning-centred orientations is relatively ‘hard’, suggesting that movement from one to the other might be more difficult than between some of the other orientations. The nature of this boundary is well illustrated in the quantitative distances between the orientations as illustrated by the differences in the Euclidean values identified in Figure 2.3. The ‘leap’ across this divide may prove to be one of the most important stages for teacher development and therefore this requires particular focus in terms of change. These data provide a foundation for investigating development through the conceptual categories and also provide further suggestion of the important role that interaction between the student and teacher might play in this. However as will emerge in the next section, this stepwise, sequential view of how the categories relate and how an individual might move between them does appear to be rather simplistic.

A recent investigation by Åkerlind (2004) demonstrates how investigating university teaching from a different perspective can provide new insights into the conceptions of teaching that have not emerged previously. Åkerlind identified two new

dimensions in ways of experiencing teaching. These were what the teachers themselves gain from the teaching-learning process and the perceived impact of teaching on the broader subject within which they operate. One of the explanations that Åkerlind provided for these previously unreported dimensions is the subtle methodological shift from investigating the experience of teaching to the experience of *being* a teacher. In line with much of the critique of the conceptions of teaching literature in this chapter, Åkerlind suggested that these results indicate that:

A focus on academics' experience of teaching separated from their larger experience of being a teacher may encourage oversimplification of the phenomenon of university teaching, in particular in terms of academics' underlying intentions when teaching (Åkerlind 2004, p373).

Although there was a suggestion from Kember (1997) that there is little value in undertaking further research into academics' conceptions of teaching, such findings from Åkerlind (2004) also support the possibility that, due to similar methodological approaches, there are a number of undiscovered aspects of teaching. Postareff and Lindblom-Ylänne (2008) also support this view that methodological design may have limited our understanding of teaching in higher education. They argue that previous studies have either used quantitative, inventory-based methods with large samples or qualitative, interview studies with small numbers of teachers from a limited number of disciplines. Therefore their investigation aimed to provide a broader and more detailed picture of teaching in different disciplines through the use of interviews with 69 teachers in 10 different faculties. This design allowed for identification of some of the more detailed aspects of teaching which had not previously been alluded to, such as variation in the teachers' *pedagogical awareness* between the two approaches. The concept of pedagogical awareness referred to the finding that some of the teachers appeared to be very aware of their pedagogical skills and had analysed and reflected upon their conceptions of teaching and learning extensively. Additionally an important element to this study was that variation in description of teaching only became apparent after analysis of the *purpose* of teaching. Consequently in considering the role of interaction in teaching Postareff and Lindblom-Ylänne, in a similar way to Samuelowicz and Bain (2001) above, suggested that it could be categorised as either a student- or teacher-centred approach

in light of the purpose of interaction. A major implication from Postareff and Lindblom-Ylänne's more broad and detailed investigation was that:

The theory of approaches to teaching should go beyond the student/teacher-centred dichotomy. The two approaches share similar elements, but variation can be captured in detail when focussing on the purpose of teaching (Postareff and Lindblom-Ylänne, 2008, p120).

The findings from these more recent investigations start to indicate that, although the conceptions and approaches to teaching may be potentially fruitful in understanding teaching, these concepts may be more restricted in pinning down the more subtle, day to day aspects of the learning and teaching environment. Despite the broad similarity in labels and categories, what does seem to be emerging is a less coherent picture of the relationship between conceptual categories but also how conceptions relate to approaches to teaching. In his review, Kember (1997) suggested that the future of investigations, in terms of the conceptions of teaching, lay in the relationship between the categories and the extent to which they could be considered a developmental sequence. Since then, more literature regarding the nature of the relationship between the categories of description has emerged. Such literature provides an insight into the potential depth of the conceptions and approaches to teaching and also the complexities of describing change or development throughout them. The literature into conceptual change is not particularly strong as it lacks clarity and consistency. Therefore questions are raised with regards the suitability of the 'hard' categories and dimensions for explaining such a complex phenomenon as teaching and in particular change as a teacher.

## **Research into change in the conceptual categories**

### **Relationship between the conceptual categories**

The rationale for using the conception of teaching categories in coming to an understanding of teacher development is that, inherent within development, there is the idea of a shift in the way of thinking and acting. Therefore it is likely that development would be indicated by a change in the conception of teaching an individual may have. However, as it has already been argued and will continue to



be, development may often manifest itself in more subtle ways than this. Although the studies reviewed on the conceptions of teaching so far have not explicitly indicated that they represent a developmental sequence, the existence of such categories does imply such a progression (Entwistle *et al.*, 2000). A number of investigations have started to show some evidence of changes in teachers' thinking which have been tracked using the conceptual categories (Martin and Ramsden, 1992 and McKenzie, 2002). However, how this change is reflected within the categories is very much dependent upon how these categories relate to one another. It is the nature of this relationship and the implications the relationship has for change and development that acts as the focus for the first part of this section. This will then lead into a review of the literature concerning conceptual change of academics in relation to teaching.

As was noted earlier in this chapter, Kember's review of thirteen studies yielded two quite different ways of explaining the relationship between the conceptual categories. Some studies in this review appeared to suggest that the categories were hierarchical (Biggs, 1989; Dall'Alba, 1991 and Martin and Balla, 1991). In other words, those categories lower in the hierarchy were subsumed by those above them on the scale. The other way of viewing the categories, which was the way that Kember advocated as being most appropriate, was that they were independent and ordered. In this instance, the categories were on a continuum where, if change occurs, the teacher moved from one to another without retaining any aspects of the prior category. Samuelowicz and Bain's (1992) work in particular appears to support this as they found no evidence of a teacher with a higher conception exhibiting any elements from a lower category. However, more recently, Åkerlind (2003) has argued for the categories being far more inclusive and more aligned with the idea of the categories being hierarchical in nature. Åkerlind (2003) suggests that this view of the relationship between the categories matches more appropriately with the ontology of phenomenography. This suggestion is based upon one of the core assumptions of phenomenography being that different categories of description are logically related to one another, normally in the form of a hierarchy (Marton and Booth, 1997). Therefore it is more appropriate to think of the conceptual categories as defining the

*awareness* that an individual has of a particular aspect of teaching. It would follow that more developed conceptual categories would acknowledge the *potential for variation* in a particular aspect of teaching and learning (Åkerlind, 2003). This way of viewing the conceptions comes through extremely well in Marton's explanation of the nature of a category of description:

Awareness is layered. Some things make up the core... other things belong to the field surrounding the core... Although we are not consciously aware of most things, we are aware enough for them to be pulled into the core if the changing here and now were to make them appear highly relevant... Relating parts to parts, parts to whole and whole to contexts means having a simultaneous focal awareness of parts, whole and context ... the major components of structural aspects of ways of experiencing something... or of conceptions... The structural aspect pre-supposes the referential aspect... of experiencing something... (and) together... characterise... a level of capability (to experience something in a certain way)... (This) way of describing a way of experiencing something is what we call a category of description (Marton 1995, cited in Hasselgren and Beach 1997, p194).

In particular, this implies the presence of a foreground and background of awareness. How this might work in practice can be considered using Åkerlind's (2003) example of the awareness of the quantitative-qualitative dimension of learning. An individual holding a more complete conception of teaching would be aware that learning may be both quantitative and qualitative in nature. Such a view would mean that they could foreground either type of learning at a particular point while still retaining the opposite type in the background of their awareness. However, if the categories were considered as ordered on a continuum, this would imply that an individual would consider learning as being all of the same nature. Such a one dimensional view of learning is likely to provide a similarly limited view of teaching. Therefore, regardless of the relative sophistication of the individual's conception of teaching, the range of teaching strategies that the teacher might use is likely to also be limited.

The perspective that the categories are hierarchical has also been demonstrated empirically. These empirical data point towards the inclusive nature of expanded awareness being unidirectional (Åkerlind, 2003). In other words, teachers whose conceptions of learning were student-centred and learning orientated, have been shown to exist with an awareness of teacher-centred, content orientated conception but not vice-versa (Trigwell and Prosser, 1996a). Evidence to support this was that

descriptions from a teacher in the latter study, who was labelled as having the most sophisticated conception, contained elements of all four of the conceptual categories that they identified:

The purposes of teaching are to increase knowledge through the transmission of information (1) in order to help students acquire the concepts of the discipline (2), develop their conceptions (3), and change their conceptions (4) (Trigwell and Prosser, 1996a, p278).

Although the discussion around the nature of the categories of description is important, there is potentially a more fundamental limitation of the conception of teaching work, which may be at the root of this disagreement between authors such as Åkerlind and Samuelowicz and Bain. All the studies considering the relationship between conceptions and approaches to teaching have done so via the participants reported and not their actual practice. In a study by Murray and MacDonald (1997), they reported a mismatch between teachers' conceptions of teaching and their claimed educational practice. They suggest that this may be explained by the work by Argyris and Schön's (1974) that differentiated between an espoused theory, which refers to a declared belief or view, and a theory-in-use that actually informs action. Given this potential for variation between espoused and actual action questions can be raised with regard to the validity of teachers' reported practice and, therefore, the assumed link between conceptions, approaches and student learning (Devlin, 2006). In a critical review of research on teaching beliefs and practices in university, Kane *et al.* (2002) used the argument that research which examines only what teachers say about their practice and does not observe what they do, 'is at risk of telling half the story' (p177). As the conceptual change approach to teacher development is predicated upon the assumption that conceptions inform teaching practices, this is a severe potential limitation to the use of conceptions of teaching as a guiding framework. However, in the same regard, it would not be sensible to entirely reject this body of the literature that has provided the beginnings of some important insights into the process of teaching change.

Considering the weight of argument, it seems that the most sensible view is that the conceptions appear to be related and hierarchical in their nature. The implications

this has for development is that a shift in conception of teaching towards a more complex category will be characterised by an expanded awareness. Such awareness of an aspect can be defined as the discernment of variation within that aspect (Marton and Booth 1997, cited in Åkerlind, 2003). As a result, although the teachers' primary foci may shift as a result of development, aspects of the conceptions of teaching that they previously held remain open to them. How an individual uses this 'background awareness' is likely to manifest itself in a variety of different ways. These may include: acting as an addition to the primary foci in their teaching; being an alternative focus; or an aspect that they consciously reject (Åkerlind, 2003). However, the body of literature that provides empirical evidence as to how teachers develop through the conceptions of teaching is rather limited. In addition to this paucity of evidence suggesting that change is possible, the factors which influence change are even less well considered and yet of great interest for teaching development in higher education.

### Research into the development of teachers' conceptions of teaching

Not only is there a limited volume of literature that uses the conceptions of teaching framework in the investigation of teacher development in higher education, but it is also quite diverse in terms of its focus and approach. Only two studies have explicitly used the conception of teaching categories to track the development of their participants over a period of time (Martin and Ramsden, 1992 and McKenzie, 2002). Related to these studies are investigations by Åkerlind (2003 and 2007), which identified the different ways in which teachers described their experiences of development. A more comprehensive wing of the research in this area used training interventions and monitored conceptual change and associated improvements in teaching (Hativa, 2000, Ho *et al.*, 2001, Devlin, 2003, Gibbs and Coffey, 2004, Posteraff *et al.*, 2007 and Light and Calkins, 2008). These various types of investigation act to shed light on our understanding of teacher development from a number of different angles. However the review of these studies will also further illustrate the limitations of the conceptions of teaching for creating a full picture of teachers' developmental experiences.

The first set of investigations, by Martin and Ramsden (1992) and McKenzie (2002), all attempted to describe change in teachers' conceptions of teaching that resulted from their 'on the job' experiences. Martin and Ramsden used various forms of information, collected over the first semester of a one-year course on teaching in higher education. Their research included data from interviews, observations and participants' evaluation assignments. These data were analysed using what they described as a 'modified phenomenographic approach' where they aimed to identify categories of a limited number of different understandings of teaching and explore if changes in teaching could be described in relation to these categories. These categories and any associated changes were illustrated using three case studies. The main representation of the teachers' development in the investigation was the suggestion of *expansion of awareness*, particularly in terms of the effect of teaching on student learning. Martin and Ramsden described the situation whereby the teachers grew to have a less taken for granted view of the impact that their teaching had upon student learning, therefore causing them to question and alter their approaches. The concept of an expanded awareness has since been used as a way of understanding the relationship between the categories and provides an initial glimpse of the nature of conceptual development (Åkerlind, 2003). As this was a particularly early investigation, the key aspect of this work was simply the finding that development in conception appeared possible, albeit from different start point and at different rates of change.

Martin and Ramsden's investigation into conceptual development appeared to be ahead of its time, as at that point the conceptions of teaching framework was in its embryonic stages and by no means as clearly mapped as it is today. As a result there appears to have been a significant gap between this and the next studies to investigate development, potentially due to a focus upon simply identifying and defining the categories and their associated implications for practice and learning. Therefore the next study to report on university teachers' experiences of change was McKenzie (2002). Twenty seven new teachers, all from the same university but different discipline areas, were interviewed several times over a one to two year

period. A traditional phenomenographic analysis was undertaken to categorise the range of different ways teachers described their experience of teaching.

The second phase of McKenzie's analysis was to consider these categories across the interviews with individual teachers, in an attempt to identify change. However, a number of limitations with this process were acknowledged to the extent that she described this as 'a highly problematic undertaking' (1999, p2). First of all, in different interviews, various dimensions of teaching were brought in the foreground and others sent to the background. Such findings created confusion as it was unclear whether this was due to development or a change in the context. Secondly, the categories themselves were difficult to relate to individual teachers' experience of teaching. Due to the need to identify a limited number of categories the descriptions had to be stripped of their richness. Therefore picking up change from these rather hollow categories provided a rather distant insight. Often teachers were describing aspects of teaching that fell into more than one category or only partly fitted a category. Finally, there was a concern over the lack of sensitivity of the conceptual categories for monitoring change. It is likely that more subtle, but no less important changes were occurring in the teachers that were undetectable through assessing if there had been movement from one category to another. All of these issues raise further concerns regarding such explicit use of conceptual categories for monitoring and describing the experience of teaching development.

The final stage of McKenzie's (1999) analysis was to consider any disjuncture between the teachers' descriptions of changes in their teaching and the change being picked up from their described ways of experiencing teaching across interviews. As a result of this analysis a number of important implications did emerge, however, due to the problems described above, McKenzie suggested that these should be considered as provisional. In attempting to identify change it was found that thirteen of the teachers' descriptions indicated a different way of experiencing teaching which resulted in a shift in category. However, the scale of change varied widely and the details of these changes were not clearly articulated, which appeared to be symptomatic of the problems outlined earlier. In addition, nine teachers had

descriptions that were suggestive of a shift in focus insufficient to warrant a change in category. Interestingly, one teacher showed aspects of two different categories where they used a different, more ‘complex’ category, in laboratory sessions compared to lectures. Again, this questions the use of the conceptual categories for such analysis as it becomes unclear whether the teachers are describing development or simply variation as a result of facing different learning and teaching contexts.

Åkerlind (2003 and 2007) also investigated the variation in the ways in which academics experience or described developing as teachers. The first of Åkerlind’s (2003) studies aimed to identify the meaning of being a teacher and experiences of developing as a university teacher. On the whole, relatively logical and coherent relationships were identified between conception of teaching and conception of development. There were exceptions to this where some teachers described a student learning conception of teaching alongside more teaching focussed development. However, those with a teacher transmission understanding of teaching only saw development as being content and teacher comfort orientated. These findings are related to the earlier discussion around Åkerlind’s (2003) ontological debate, which suggests that it is most appropriate to think of the conceptual categories as representing the awareness that an individual has for a particular aspect. If this stance is taken, it is no surprise that a teacher with a greater awareness was concerned with not only developing knowledge and skills in order to more effectively engage students but also their content knowledge, confidence and comfort as a teacher. Such a way of understanding development appears to potentially be more valid in that it accepts variation in ways of acting and developing as a teacher without suggesting that an individual’s conception will change. It would seem that this type of situation is more akin to the broad ranging, and at times, contradictory decisions a teacher might make on a week to week basis in relation to their development.

Åkerlind (2007) undertook a second analysis of these data in order to identify the associations between these ways of understanding teacher development and the strategies used to develop as a teacher. Five qualitatively different approaches to

teaching development were identified. Each of the approaches contained two components, an ‘act’ of teacher development and an ‘aim’ or desired capability to be developed. These were then related to the associated conceptions or desired outcomes of development identified in the earlier investigation (Åkerlind, 2003). For example, at the least complex level, the aim of teacher development was to ‘become more familiar with what to teach’. The associated act was to achieve this by ‘increasing content knowledge’ and the outcome of this was in order to ‘achieve greater comfort and confidence as a teacher’. A part of the analysis that started to illuminate how teachers went about their development was when the intentional acts of development were matched to some illustrative developmental strategies (see Table 2.3). This form of analysis provided a more grounded sense of how the teachers described their development.

Table 2.3 Developmental strategies associated with different developmental intentions (Åkerlind, 2007, p34. Emphasis added).

Intentional act of development	Illustrative development strategies
Increase in content knowledge	Reading disciplinary literature, conducting research, collecting up-to-date materials and examples
Acquiring practical experience	<i>Engaging in teaching</i>
Accumulating teaching strategies	<u>As above, plus</u> attending courses/workshops, reading educational literature, observing teaching colleagues
Finding out what works, from the teacher’s perspective	<u>As above, plus</u> experimenting with teaching methods, seeking feedback on student satisfaction, reflecting on outcomes
Finding out what works, from the students’ perspective	<u>As above, plus</u> seeking feedback on student learning, including reflecting on student learning outcomes apparent from their assessment

Åkerlind uses this part of the analysis to allude to why some teachers may see value in particular developmental activity and yet others may not. However, what is clear is that simply *engaging in teaching* is a core aspect to the teacher development strategies described (other than in Category 1) in Åkerlind’s study. The concept of *engaging in teaching* would appear to refer to the value of trial and error, and the strong experiential dimension to teaching development. Aspects that come from this engagement in teaching that may support development may include experimentation with different teaching strategies and the exposure to feedback from students.



The second group of studies, outlined at the beginning of this sub-section, was research that investigated development of the conceptions of teaching through the use of intervention methodologies. It was Ho *et al.*, (2001) who were the first to report a conceptual change approach for improving teaching in a group of twelve 'junior' academics in a Hong Kong university. Three semi-structured interviews were undertaken to gauge the impact of the development programme upon the participants' conceptions of teaching. Inventories were also used to assess students' perception of the learning and teaching environment and their approaches to learning pre and post programme. In addition, a cohort of teachers in the year before the intervention study acted as a control group. For the analysis the sample size was reduced further to nine and of these nine, six showed a positive change in their conception of teaching. However, only three of these teachers demonstrated associated changes in their students' approaches to learning. Ho reported this as a 'positive change' in the teachers' conception of teaching. However, there are a number of concerns with this analysis.

The first concern is the extremely small sample size of twelve, which was then reduced to nine. In addition, four were actually placed in an 'unsure' category indicating that the panellists acknowledged change although to a lesser extent than the two in the 'yes' category. Also none of the control group showed any change in their conceptions. Both these findings suggest a problem with the sensitivity of the data collection and analysis methods employed for monitoring change. It seems extremely surprising that, in the presence of a formal development programme, conceptual development changed practice in only two out of the original twelve participants. It is also equally surprising that even in the absence of a formal programme, none of the four teachers in the control group showed any indication of meaningful development as teachers over the course of a year. As highlighted in the review of Akerlind's (2007) work above, a great proportion of development appeared to take place as a result of simply engaging in teaching. All of the control participants would have been engaged in teaching and yet exhibited no development in their conceptions. Although this may not have been conceptual change across an

entire category, it seems unlikely that there would have been zero development in either their thinking or practice. Such a finding again raises questions of whether the window through which development is being viewed is either too small or too clouded.

Another criticism pointed towards the Ho *et al.* (2001) analysis is the claim that development of the conceptions of teaching can lead to, or is a prerequisite for, improvement in teaching and student learning. Eley (2006) debates the existence of the strong directional influence of conceptions to practice in that he suggests that conceptions may ‘actually be post hoc reflections on past experience, and not indications of detailed functional decision steps’ (p191). Eley suggests that, in response to the general open questions asked in not only the Ho *et al.* (2001) study, but the majority of conceptions of teaching investigations, participants may have reflected upon their teaching practice and distilled any common underlying ideas which enable them to create a coherent personal model for what they do. With the use of questioning that asked teachers about recent planning and teaching episodes, Eley (2006) found that the teachers’ descriptions were context rich and focused upon ‘localised’ models of what students might do, rather than evoking general conceptions of teaching’ (p191). From this perspective, Eley suggests that the conclusion of Ho *et al.* (2001), with regards to this chain of influence, starting with the conceptions of teaching, is too strong and it may be personal experiences that drive conceptions rather than the reverse. Again, this suggests that there is a need for caution in the interpretation of the conceptual categories and the role that they play in understanding the development of teaching in higher education.

A similar, but larger scale investigation, which assessed the effectiveness of university teachers’ training, was conducted by Gibbs and Coffey (2004). The analysis on the whole showed that the intervention programmes had a positive effect upon teaching and learning. The training was seen to influence teachers’ approaches to teaching, which impacted upon teaching quality as indicated by student feedback. Additionally, this was related to students being less reliant upon surface approaches. Despite the positive direction of these findings, Gibbs and Coffey did not suggest

such a strong directional influence of training upon teaching as in the conclusions of Ho *et al.* (2001). To the contrary Gibbs and Coffey stated that;

We are still not in a position to demonstrate that it was the training itself that resulted in positive changes, merely that those institutions that had training also had teachers that improved (Gibbs and Coffey, 2001, p99).

One of the reasons for this more tentative conclusion may have been that the training programmes were not purposely designed to promote conceptual change in the teachers. However, classifying the training programmes from the different institutions into those aimed at improving teaching skills and those which focussed on developing more sophisticated conceptions would have been over simplistic. Most of the training programmes claimed multiple goals and used a variety of training tactics. Secondly, it was the teachers' approaches to teaching and not their conceptions of teaching that were actually measured. Therefore this leaves the possibility of two quite different scenarios in terms of conceptual change. Either there was no conceptual change and teaching practice changed and student learning improved without a teacher moving from one category to another, or conceptual change did occur. For some, however, this may have been in training programmes where the focus was upon teacher skill development. If this were the case, it would be in line with Eley's (2006) argument that conceptions are created and therefore developed from experiences of planning and enacting teaching. Therefore taken to its logical conclusion, this would indicate that even in development programmes that do not aim to shift teachers' conceptions, individuals may be introduced to new skills that they can experiment with. Such experimentation is likely to result in a number of new experiences, which in turn allows them to build up more complete conceptions of teaching.

More recent investigations have been undertaken into the impact of training upon approaches to (Postareff *et al.*, 2007) and conceptions of teaching (Light and Calkins, 2008) in different contexts; Finland and USA, respectively. Postareff in particular added further to the literature by considering the impact of the amount of pedagogical training upon approaches to teaching. They found that those teachers who had received more pedagogical training scored higher on the conceptual change,

student-focussed approaches to teaching scale and lower on the information transmission, teacher-focussed scale. Such a finding remained even when the effect of teaching experience was statistically held constant. Interestingly, the differences were not as strong under these conditions indicating that teaching experiences may also be an important influencing factor upon approaches. Also, what emerged was that change in approaches to teaching is a relatively slow process. It required a one year training programme for any positive change to be observed, with shorter training seemingly creating more uncertainty for the teachers. Investigation into the reasons for this uncertainty may be productive in creating programmes which more appropriately support the development of new teachers.

The investigation by Light and Calkins (2008) was similar to that of McKenzie (2002) as it used a phenomenographic approach to analyse two interviews with the same individual to investigate variation in conceptions of teaching. More specifically, the Light and Calkins study was to assess the impact of a development programme and took place in a US as opposed to an Australian university. Although patterns of positive change were identified in this investigation, there were several issues that came to light with regard the use of conceptual categories to monitor the change. Firstly, based upon their analysis, Light and Calkins found it difficult to distinguish between the conceptions of teaching presented by Prosser and Trigwell (1999). For example, they found it difficult to differentiate between a teacher helping a student to 'develop' or 'change' their conceptions. This difficulty will have been exaggerated by the participants being new teachers on a development programme and therefore less likely to have a consistent or precise language for their thinking about teaching. The authors also acknowledged the lack of attention that their analysis gave to the unique experiences and conceptions that the academics brought to the programmes. They highlighted this as a potential limitation of the study as it did not provide insights into more individualised patterns of change.

Despite the conceptions and approaches to teaching offering a clear and consistent lens through which to view teaching in higher education, their use in considering how teachers act and develop has been seen to break down in a number of instances.

As argued by Entwistle *et al.* (2001) in relation to the approaches to learning, although the creation of such analytical categories provide a pattern of relationships that help to clarify how students learn, they also supply a view of student learning that suggests consistency and coherence in study behaviour rarely found in reality. Bennett *et al.* (2000) also suggest that research into conceptions of teaching is oversimplistic in comparison to the school-based literature, which considers the knowledge base and implicit theories that make up teachers' everyday experiences. Entwistle stated that 'if more adequate description...is to be provided, researchers need to draw directly on students' experiences as they carry out specific tasks.' (Entwistle *et al.*, 2001, p114). Such a suggestion may offer a productive way forward for shedding new light on teaching and teacher development in higher education. The first part of this next section reviews a disparate body of the literature that has explored teaching and teacher development from a number of different angles using a variety of approaches. This provides a different perspective on teaching in higher education through the use of richer, fine grained analysis, which helps to draw out some of the idiosyncratic aspects of the learning and teaching environment.

## **Beyond the conceptions of teaching for understanding teaching and development**

### **Complementary research into teaching and teacher development**

A recent investigation, which attempted to provide a fuller picture of everyday classroom practice and development, was conducted by Entwistle and Walker (2000). This research used a case study to provide an insight into teacher development over time while maintaining the teacher's everyday experiences. The method employed was the use of a single retrospective account in order to provide a more complete description of how the individual's teaching became more sophisticated over a period of time. The aim of this narrative account was to provide a more authentic voice and give a more complete account within an everyday context that can often be lost in abstract, de-contextualised descriptions (Entwistle and Walker, 2000). However, there are obvious limitations to such work which mean

that the findings must be interpreted with some caution. It only represents the recall of the experience of a single teacher in a particular context, who is considered to hold a sophisticated conception of teaching. Also, holding a sophisticated understanding of teaching will have significantly affected how the individual reflected upon his past experiences and development. It will have provided him with a language and insight that may not accurately reflect reality. Despite such limitations, the novel perspective from which this investigation looks at teacher development has provided some illuminating findings.

One aspect to come out of the account was the suggestion that more advanced conceptions of teaching appeared to be developed through the teacher's everyday experiences with students. The impact that these experiences of interactions with students had upon the individual's view of teaching also appeared to be linked with the development of the teacher's knowledge of the subject. Relationships between a number of aspects were evidence including; experiences of interactions with students, development of the conception of teaching and the teacher's changing knowledge and understanding of the subject. However it was difficult to discern the direction of the relationship between these three aspects, which is illustrated in the following extract from the account:

Over time, I became increasingly intrigued by the discrepancy between my greater command of the concepts, with their wider connections, and the apparent inaccessibility of those concepts and connections to most of my students. I now began to find more interest in epistemological aspects of physics, and this interest spilled over from the realm of private wonderment into the pedagogical imperative to share that knowledge, understanding and interest (Entwistle and Walker, 2000, p347).

The development of the teacher's own knowledge in the subject area was central in a number of other parts of the narrative. Entwistle and Walker suggest that teachers' thinking about their own discipline might be one of the most effective catalysts for them changing their teaching practice. The aim of this trial-and-error approach was an attempt to provide the students with a 'glimpse of an expanded awareness of the discipline' (Entwistle and Walker, 2000, p354). Experimentation by the teacher provided the kinds of new experiences and feedback that interactions with students bring. Such moments seemed to be a critical stage or 'pivotal position' in the

individual's development where he realised that teaching is not all of the same nature and the value of a 'multiply inclusive' approach.

A final aspect to come through from Entwistle and Walker's analysis was that a great deal of the teacher's descriptions, particularly later on in his development, referred to unplanned changes that occurred while teaching. This type of situation is well illustrated in the following extract from the narrative, where the teacher uses the metaphor of a 'jamming' jazz musician to describe their more fluid, flexible approach to teaching:

Later, as I developed more mastery, I could teach in a more conversational style, maintaining a sense of theatre, creating and taking opportunities to engage students' interest and thinking. Examples, demonstrations and questions can be chosen to maximise such engagement and wherever possible to elucidate and challenge students' preconceptions. The experience of teaching now, from my point of view, is more akin to a masterful jazz musician improvising and interacting with partners, allowing the instrument itself to speak, to express and inspire – rather than having to clumsily pluck or blow to force a predictable outcome (Entwistle and Walker, 2000, p350).

Entwistle and Walker referred to the development of this way of teaching as 'strategic alertness', which appears to be characterised by an awareness of the occurrence of 'teachable moments'. It would seem sensible that in order to improvise in teaching in this way, an individual would have to rely quite heavily on the tacit knowledge and experience that makes up the concept of craft knowledge described earlier. Again the importance of day to day engagement in teaching comes through as an important theme.

Martin and Luekenhausen (2005) undertook a larger scale investigation to assess how engagement in teaching influenced their development. In order to avoid some of the limitations of using the categories of description to monitor change, they used metaphor analysis. The value of the metaphor analysis appeared to be that such language is often used in teachers' descriptions in order to make sense of the complex and emotional elements of teaching that make up the lived experience. Martin and Lueckenhausen then mapped the thoughts and feeling derived from metaphor analysis onto the outcome space identified from a previous phenomenographic study (Trigwell *et al.*, 1994), which considered changes in

university teachers' understanding of their subject matter. Therefore this provided a balance between the fine grained individual descriptions and a broader theoretical framework. Despite this enhanced breadth in the data collection, the analysis identified a number of similar issues to those already raised by Entwistle and Walker, including the importance of knowledge, feelings and experience.

The quantitative data showed that a third of teachers underwent small changes in their teaching in the fourteen week period and another third were classified as demonstrating significant change. This change was not simply in terms of how they taught but also how they understood the subject themselves. Related to this, an important conclusion was that development was more likely in those teachers who had a more sophisticated view of the subject and teaching in the first place. This suggestion parallels an aspect of Entwistle and Walker's (2000) work, where they identified the potential for a critical point or pivotal position in an individual's development. In other words, once a teacher reaches a particular level of awareness regarding the construction of content knowledge and the link between learning and teaching, this allows them to develop their thinking on these aspects even further. Such a phenomenon could be considered as reaching a *threshold of awareness*, after which more sophisticated ways of teaching are developed. Martin and Lueckenhausen provide a very clear description of what appears to be going on with a teacher at this more sophisticated level, which is illustrated in the following extract. The description below helps to provide a clear insight into the type of doors that appeared to be opened up for a teacher who is at this level of thinking about teaching and learning. As a result, it is very easy to see where the development in teaching would come from for this type of individual:



These conceptual change teachers see all knowledge, including their own, as provisional. They see their subject matter not as a stable entity but as a dynamic relational phenomenon. They see it in relation to other changing phenomena within the field and also in relation to their students' developing understanding. Sometimes it is research, or insight into the wider discipline or area, that changes their understanding. Sometimes it is attention to their students' more naive understanding that sparks a change. The significant thing is that as they go about their business, as lecturers of undergraduate students, they are open to the possibility of change. They expect change in their students' understanding, because for these teachers, this is what teaching is about. They also, however, are open to the possibility of change in their own understanding – because that is the nature of knowledge (Martin and Lueckenhausen, 2005, p408).

What is less clear about the possible existence of this pivotal position or threshold is how it can be reached or what the type of triggers are that allow an individual to progress towards this level of awareness. Having said this, what comes out quite clearly in the extract just presented is the critical role of knowledge, and an understanding of the nature of knowledge. Also related to these more sophisticated teachers, although not quite as well dissected, was the role of emotion in teaching. Martin and Lueckenhausen suggest that teachers with a more developed understanding were most emotionally affected. Again this is in line with Entwistle and Walker's (2000) findings where most emotion came out of the narrative at the point where the teacher had started to introduce more open teaching styles. Although the complex and idiosyncratic nature of emotion makes its analysis difficult, Martin and Lueckenhausen suggest that confusion and anxiety were undoubtedly central during times of greatest change.

In addition to this more quantitative description of change, Martin and Lueckenhausen considered the meaning and experience of change through the more in-depth metaphor analysis. From this they found coherence between how a teacher saw the subject and how they consider it best to be taught, which was then related to them experiencing a change in understanding in a particular way. In order to illustrate this, Martin and Lueckenhausen introduce the metaphors of a 'Courier', 'Builder', 'Navigator', 'Expedition Leader' and 'Pioneer'. At one end of the spectrum the Courier sees that the knowledge of the subject can be delivered to the students. Change is purely a case of adding more to the package and this is fulfilling for the teacher. At the other end of the spectrum, the Pioneer considers the subject as being 'hazy' and 'difficult to pin down' and teaching is to collaborate with the

student in an attempt to bring their own sense to it. Due to the questioning nature of the subject, change is inevitable and teaching helps with the change. However, the experience of change for this type of teacher is considered stressful and they would not necessarily choose to do it again (Martin and Lueckenhausen, 2005). What also comes through in this investigation is the subtlety of the factors that the analysis attempted to unpick in order to understand how teachers develop. In their description of the aim of these metaphors, Martin and Lueckenhausen state that they are ‘an indicator of the varied ways lecturers experienced tasks and events, that, on the surface, can be seen as deceptively similar acts of teaching’ (2005, p409). In addition this difficulty of discerning what is under the surface was also evident in part of the narrative from Entwistle and Walker:

From the point of view of an observer, much of what I am trying to achieve while teaching might not be readily discernible – it might look like a fairly standard lecture [...]. But from my point of view, as the one teaching, it looks very different, and my awareness of what happens in class contrasts markedly with how it used to be (Entwistle and Walker, 2000, p350).

This ability to see these finer points of teaching acts to further support the use of these types of analyses in order to gain a better picture of teacher development. In addition, what has also been demonstrated is that despite the single case study design of Entwistle and Walker, the majority of key findings have also emerged in a larger scale investigation by Martin and Lueckenhausen.

In a similar way to the investigations described earlier, which used intervention programmes and tracked conceptual change (e.g. Ho *et al.*, 2001), the alternative literature on teacher development in higher education has also examined the influence of such interventions upon teaching. These continue to use equally varied approaches that allow in-depth analysis of small numbers of cases. Hativa (2000) investigated two professors who were classified as poor teachers as indicated by student perceptions taken from evaluation ratings and Devlin (2003) outlined the effect of a teaching development programme on a single case. In both of these studies, positive changes in teaching were evident in all cases. Interestingly, what came out of Hativa’s (2000) analysis is that the two teachers who were investigated ‘were not able to improve their teaching on their own and were not able to

understand the sources of negative behaviours in class' (p518). Returning back to the earlier discussion, this finding also seems to lend support to the idea of a threshold of awareness. As these were considered poor teachers by their students it is not unreasonable to assume they did not have a sophisticated view of teaching and therefore had not reached the threshold. Hence, in the case of these two teachers, they required the prompt or support of the intervention programme in order for change to occur. This finding would offer some explanation of why some teachers accelerate and others remain static in their development, but also why teaching development programmes may be more effective for some than others.

In both of the studies by Hativa (2000) and Devlin (2003), the development programmes were successful in getting the teachers, who were classed as teacher-centred and poorly rated by students, to a point where their conceptions were developed and instruction improved. What was less well considered in both of the investigations was the extent to which the training directly changed how the teachers came to see teaching or whether it was purely related to an enhancement of their pedagogical knowledge that allowed the teachers to experiment with new methods. This issue returns back to an earlier discussion in that some areas of the literature suggest that conceptions drive approaches to teaching (Trigwell and Prosser 1996a), whereas others maintain it is change in practice and new experiences in planning and interacting with students that may actually influence the teachers' beliefs (e.g. Eley, 2006). There is some indication in the studies by Hativa and Devlin that support the latter. In Devlin's analysis there was a statement that by the end of the second development session the lecturer had; 'already begun to change the manner in which he conducted his lectures based on his modified conception of teaching after Session 1.' (Devlin, 2003, p84). Although this appears to be in line with Trigwell and Prosser's way of thinking, there would appear to be a number of points of contention with such a suggestion. Firstly, a 'modified conception' after one development session would seem to be an extremely bold suggestion by the author, in that it is unrealistic to think that the belief structure of a teacher who had been teaching for at least five years had been changed by one conversation. Secondly, as a follow up to the first session, the academic developer had e-mailed the lecturer with some

strategies for greater student engagement in their teaching. These suggestions encouraged the teacher to think about asking more questions, asking students for examples of a concept and using quizzes. It would seem more likely that the lecturer had actually changed the manner in which they conducted his or her lectures based upon this advice and not a change in overarching conception.

Hativa (2000) undertook an in depth study to assess the effect of the teacher development programme on two teachers. Again the aim of the intervention programme was to address pedagogical knowledge, by working not only on teaching strategies, but also on personal characteristics, thinking and beliefs that negatively influenced teaching. The conclusion was that this combined approach enhanced the instruction of the teachers rather than there being a sole focus upon teaching techniques. However, the evidence put forward for a change in belief of the teachers was by no means extensive or compelling. The majority of the data on change appeared to be focussed upon aspects such as maintaining the interest levels of students, and the teachers' organisation and clarity. The main suggestion that beliefs had changed was based on the teachers using strategies that 'more effectively activate the students through discussions and questions [...]'. We may conclude the treatment caused them to modify their orientation to teaching.' (Hativa, 2000, p519). Yet as identified in Devlin's (2003) work above, it is the intentional nature of this student activity that is important. If this 'activation' of students is simply to maintain their attention so more information can be imparted, then it cannot be claimed that the orientation to teaching has been modified. Therefore, although these studies by Hativa (2000) and Devlin (2003) do support the idea that individualised teacher development programmes can change instruction and enhance students' perceptions of teaching, there does not appear to be such clear evidence for a change in conception of teaching. A suggestion would be that due to the more deep rooted nature of conceptions, something more than a development programme of relatively short duration is required. What springs from the earlier studies presented by Entwistle and Walker (2000) and Martin and Lueckenhausen (2005) is that this 'something more' may be a complex combination of pedagogical knowledge and

knowledge of the subject, alongside the experience and feedback provided through the application of this knowledge in planning and teaching.

An investigation, which claims to ‘extend the boundaries’ of the conceptions of teaching through the use of narratives from eight teachers, was conducted by Carnell (2007). Carnell’s work was based upon the premise that the study of conceptions of teaching is ‘unfinished business’. Therefore the aim in seeking narrative accounts from a small number of participants was to provide rich insights that would shed new light on effective teaching and the transformation of teaching. The narratives were developed from interviews with the teachers, which focussed on their conceptions of their most effective experiences and what they considered as a hindrance to their teaching.

A key element to the method is that it was based upon ‘situated constructivism’ (Kanuka and Anderson, cited in Carnell 2007). Briefly, this is an emphasis upon the social aspect of knowledge construction by the individual, for example in terms of collaboration and activity in learning. In considering the conceptions and approaches to teaching of the participants, Carnell suggests that descriptions of facilitating a community of learners and learning through dialogue offer a new perspective from previous research. Therefore many of the descriptions of effective teaching from the participants were based around experiences of interactions with the students, the importance of which for teaching and teacher development has already been alluded to at numerous points above. Some of the typical descriptions included: ‘I got him to tell me about his project in his own words. It was such a rich project. He said ‘I had it in my head but I couldn’t get it on paper till I started to talk with you.’ (Natasha)’ and ‘I gave them key ideas about the paradoxes of my research and it just took off. They ran with the ideas. They said I created this learning environment. It was lively and participatory. (Veronica)’ (Carnell, 2007, p30).

The analysis of how the teachers wanted to be supported in being effective also provided similar findings to previous investigations. The conclusion here was that the teachers’ views on development were congruent with their views about effective

teaching, in that they wanted opportunities for dialogue and joint research. The generally coherent relationship between how an individual sees teaching and he or she views development was a key finding in the Åkerlind (2003) study reviewed earlier. However, despite these similarities this focus upon collaboration, learning communities and dialogue for learning in both teaching and teacher development was absent in previous work, and to some extent this does provide richer more individualised perspectives than the conceptual categories.

These alternative approaches to investigating teacher development illustrate how perspectives that are informed, but not restricted, by the conceptions of teaching can provide a full picture of teacher development in higher education. A relatively common theme throughout the majority of these investigations has been the broad concept of teacher knowledge and the influence this has upon how they teach and develop. Therefore it seems appropriate to consider this substantial body of literature, which again seems to be quite detached from the research into conceptions of teaching.

### The roles of knowledge, reflection and confidence in teaching and development

As has already been seen in a number of the studies that have been reviewed, the role that teacher knowledge plays in teachers' development appears to be critical. In comparison to the school-based literature this area has been relatively neglected by the teaching and learning in higher education research domain. The following will predominantly focus upon the literature specific to teachers' knowledge in higher education. However in places it is necessary to consider the more generic professional development literature and also some aspects from the expansive literature on teaching in schools. These literatures provide a more comprehensive view of teacher knowledge and its development. In addition, it appears that the concept of knowledge is inextricably linked to that of reflection and an isolated review of each would be inappropriate. Therefore, where appropriate, teacher knowledge and the role of reflection for development will be considered in conjunction with one another.

The first and quite difficult task is to try to define knowledge. Houston and Clift (1990, cited in McAlpine and Weston, 2000) provide a good start point with their overarching definition being that ‘knowledge represents broad and in-depth cognitive structures accumulated through a combination of training and experience’ (p370). However, as has been seen already in the review, knowledge in teaching can be broken into a number of different categories, which would suggest different types of ‘cognitive structures’. For example, there has been reference to types of knowledge such as content knowledge, pedagogical knowledge and pedagogical content knowledge. These types of knowledge make up three of Shulman’s (1987) seven categories of knowledge. Knowledge of learners is a fourth from these seven, which together seem to best describe the nature of the knowledge base of teachers. Content knowledge is the teacher’s knowledge and understanding of the subject matter to be learnt. Having good content knowledge is not simply about knowing a body of content but understanding the reasons why something is the way it is, to know the subject matter deeply enough to be selective and simplifying at the appropriate points, and also how it can be connected to the current understandings and experiences of the students (Shulman, 2004). In addition, *how* the teacher sees the subject knowledge is an important element of teacher knowledge (Entwistle and Walker, 2000). In other words, what the teacher considers as the nature of this content knowledge and how a student might come to gain this is an important element.

The second category of pedagogic knowledge is related to the broad principles and strategies that are common to teaching regardless of subject. These include issues such as classroom management, planning, organisation and instructional methods. An investigation by Hativa *et al.* (2001) of the nature of pedagogical knowledge of four exemplary higher education teachers found that the teachers were mainly concerned with strategies that were related to interest and the creation of a positive classroom climate rather than organisation or clarity. In comparison, poor teachers have been shown to have a low number of effective teaching strategies with which they are familiar (Hativa, 1998). Although this may seem to be a possible defining

characteristic of good teachers, the exemplary teachers were unaware of a number of important strategies including some of those they actually used in the classroom (Hativa *et al.*, 2001). This finding would imply that, although pedagogic knowledge may support effective teaching, the latter is not dependent upon the former, as the exemplary teachers in Hativa's work indicated their knowledge of teaching strategies was quite varied and far from fully developed.

The third knowledge category, knowledge of learners and their characteristics again would appear to be fairly self explanatory. Shulman described this as knowledge of the experiences and attitudes that students bring to the classroom which can impact upon the learning of particular topics. Although this has not been extensively referred to in the literature, McAlpine and Weston's (2000) investigation of six exemplary university professors found that this knowledge domain came through as the second most frequently referred to aspect of their teaching. Furthermore, in addition to Shulman's generic definition, their analysis suggested that this knowledge domain had a more specific dimension. This dimension was the more idiosyncratic reactions of individual students or groups of students to the experience of teaching. Such knowledge appeared to come from the experiences of interactions with students, including direct contact, overhearing conversations and also the marking of assignment work.

The final knowledge category is that of pedagogical content knowledge.

Pedagogical content knowledge is considered as being the defining characteristic of a teacher. It represents the ability to make a specific subject or concept understood by those who do not initially understand. Shulman characterised this type of knowledge as being;

The most regularly taught topics in one subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations - in a word, the ways of representing and formulating the subject that make it comprehensible to others (Shulman, 1987, p9).

The creation or transformation of this type of knowledge from content knowledge and pedagogical knowledge has been touched upon in the literature in terms of



training teachers for schools (e.g. Sperandio-Mineo *et al.*, 2005). However the concept of pedagogical content knowledge has been far less well considered in the arena of teaching in higher education, if at all, let alone the conceptions of teaching research.

Shulman's categories appear to have come mainly from his work with young teachers who were training to teach in American schools. It led him to consider the question of how the extensive knowledge base of teaching could be learned in the brief teacher training period. In higher education, McAlpine and Weston (2000) found that the three professors in their work drew upon all four of Shulman's knowledge domains. Such a finding is even more remarkable as none of them had received any pedagogical training. McAlpine and Weston also suggested the possibility of a fifth knowledge domain: experiential knowledge. Creation of this new domain was as a result of all the professors from their study explicitly referring to past experience as the basis for decisions they made. Although this was not unlike the other four forms of principled knowledge, it was considered a domain as it acts as a source of information for informing current teaching practices. Additionally, considering the relative lack of training and trial-and-error nature of teaching in higher education, it is likely that tacit knowledge also plays an important role in teaching and teacher development. Therefore the more complex nature of this experiential and tacit knowledge becomes of particular interest.

## Reflection

It is at this point that reflection comes to the forefront as it is proposed that it is central to teacher knowledge development. Originally it was defined by Dewey as being 'an active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of grounds supporting it and future considerations to which it tends.' (1933, cited in Kane *et al.*, 2004, p300). The work of Schön (1983) reignited the interest in reflection where its role was considered for the practice and development of professionals generally. He distinguished between 'reflection-in-action', 'reflection-on-action' and 'reflection-for-action'. Obviously reflection-in-action refers to reflection that takes place during practice, reflection-on-action occurs

after the action has finished and reflection-for-action is prior to and in preparation for action. Although these terms have been used extensively in teacher development there have been significant critiques of the appropriateness of these distinctions for teaching in higher education. Some of the critical suggestions include: how the reflection might vary in different contexts; that most of Schön's original examples fail to use settings containing larger groups of people such as classrooms; and finally, that it is difficult to differentiate between reflection-on and in-action when considering more 'cool and deliberate' settings (Eraut, 1995). Since then, reflection has been considered more specifically in relation to teaching and developing as teachers in the higher education literature (McAlpine *et al.*, 1999, McAlpine and Weston, 2000, Clegg *et al.*, 2002, and Kane *et al.*, 2004).

In McAlpine and Weston's (2000) investigation of exemplary professors, reflection was identified as the key vehicle for the construction of more permanent teacher knowledge from experiential and tacit types of knowledge described above. They suggested that:

Transforming experiential and tacit knowledge into principled explicit knowledge about teaching requires, we think, intentional reflection for the purpose of making sense of and learning from experience for the purpose of improvement (McAlpine and Weston, 2000, p374).

It was hypothesised that the mechanism through which this transformation takes place is that the feelings and ideas from the experiential and tacit 'repositories' of knowledge become part of one of the explicit domains through the vehicle of reflection. For example, experiential knowledge may become pedagogical content knowledge through reflection upon common patterns across multiple experiences when teaching a particular topic. In a similar way, tacit knowledge may become pedagogical knowledge by reflecting on personal feelings in a situation (e.g. 'I don't feel good about how the class is going') and linking them to student cues (e.g. 'I noticed a lack of energy in the room') (McAlpine and Weston, 2000). Therefore the role of experience and feelings are central for the construction of knowledge through reflection, which in turn leads to informing future actions and experience. This ability to create principled knowledge from experience is to some extent supported

by McAlpine and Weston's analysis. From the analysis of the six exemplary professors, McAlpine *et al.* (1999) put forward a 'metacognitive model of reflection' (Figure 2.4). Their model suggests that reflection is anchored in experience, which is represented by the 'action' label, acting as the start point for the model. Teaching is then internally monitored by the teacher with reference to achievement of appropriate goals. Such a process may then lead to decision-making in terms of whether to alter teaching or not, but this is dependent upon where the cues picked up in monitoring fall on the 'corridor of tolerance'. The concept of a corridor of tolerance explains why some reflection results in changing future activity and why some does not. It is this continuous cycle of monitoring and decision making that is required for the building of appropriate knowledge.

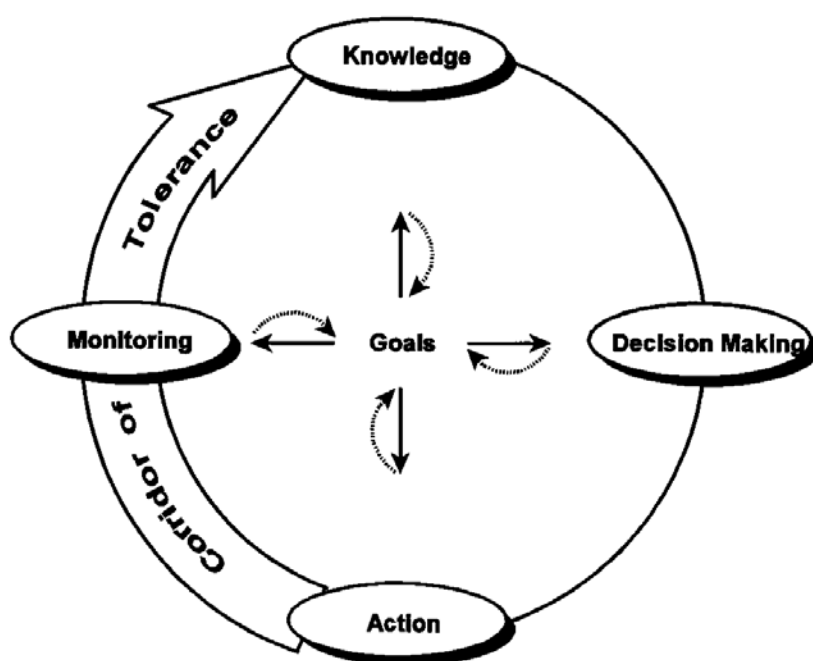


Figure 2.4. Model of Reflection (McAlpine *et al.*, 1999)

Another important aspect of the interaction between reflection and knowledge is its two-way relationship, in that the use of the process of reflection is important for knowledge construction, and increasing knowledge increases the ability to use reflection effectively (McAlpine and Weston, 2000). Such a relationship provides a 'chicken and egg' situation that has distinct implications for understanding the

influences acting upon a teacher's development. McAlpine and Weston suggest that their data reveal that 'ongoing monitoring expands one's knowledge bases and as knowledge develops, one has a richer source to draw on during decision making and a greater understanding as to what bears monitoring' (2000, p375). Based on this, they conclude that without specialised training or support, inexperienced teachers are likely to find it difficult to adequately or appropriately develop their knowledge. However, this appears to be in contradiction to the three professors in their sample who were reported to have received no formal training and yet were still considered exemplary. It would be important to consider the nature of their development and how they managed to break into this supposedly discrete cycle.

Reflection also forms the central hub of an analysis of the dimensions of excellent tertiary teaching by Kane *et al.* (2004). The research design employed multiple methods in order to assess both what the teachers said about their teaching but also what they did. Such an approach avoided the criticism of a number of the investigations in higher education that research focuses predominantly on espoused theories of teachers, which may be quite detached from practice. Five dimensions of teaching attributes were identified, including: subject knowledge, pedagogical skill, interpersonal relationships, research/teaching nexus and personality. The most original aspect of the work was the proposal that these five dimensions were integrated and held together by the process of reflection. In other words it was not simply whether these attributes were present or not, but the way in which the participants thought about and understood their teaching through purposeful reflection that created teaching excellence (Kane *et al.*, 2004). This finding relates back to an aspect of Hativa's (2001) work mentioned earlier, which suggested that the exemplary teachers in their study were only conversant with a small range of pedagogical skills. To some extent this appeared difficult to explain, however this suggestion from Kane does shed additional light on this. Kane's model would propose that despite these teachers not showing extensive pedagogical knowledge, it was the way in which they thought about and understood the strategies they did use that made them exemplary.

## Confidence

The importance of teacher knowledge, reflection and the interaction between the two has been acknowledged and reviewed in relation to teacher development. A dimension that has been less well considered, particularly in the higher education literature is the role of confidence in teaching and teacher development. Confidence seems to have obvious connections with teachers' knowledge, their willingness or ability to experiment and therefore vary the types of experiences on which they have to reflect. McAlpine and Weston's (2000) analysis alluded to these connections to some extent in highlighting the type of factors that influence the ability to reflect on teaching. Firstly, as already mentioned, some minimal knowledge of teaching is required otherwise reflection is difficult as novice teachers have little knowledge upon which to draw. Secondly, lack of experience may also be a stumbling block, as without this there is likely to also be an insufficient knowledge base for reflection. Thirdly, a fear of risk taking was identified as a possible factor due to perceived constraints that prevent this action from being taken. This concept of 'fear of risk taking' would appear to relate extremely closely with that of the confidence of an individual. Despite these suggested critical links the extent to which confidence has been referred to in the literature, particularly teaching in higher education, appears to be minimal and fleeting.

One of the possible reasons for this lack of investigation into teacher confidence might be as a result of its complexity as a construct. In Hativa's (2000) study of poor teachers, low self-confidence in teaching ability was outlined as a key trait of one of the teachers in the study. The low self confidence was put down to the low ratings that the teachers received from students on their teaching in previous years. However, as the teachers altered their teaching behavior, such as speaking more slowly and improving the clarity of the organization of the lesson, these ratings improved and self-confidence appeared to improve. An enhancement in self-confidence resulted in greatly improved classroom management such as leadership and authority. Therefore confidence appeared to be a two-way construct in that it is developed through positive teaching experiences, but also enhances the quality of teaching itself. Research investigating the effect of pedagogical training on teaching

in higher education also supports a similar relationship between teaching approach and self-efficacy (Postareff *et al.*, 2007). Postareff found changes in self-efficacy which corresponded with changes in approaches to teaching. When teachers scored high on the conceptual change, student-focused approach to teaching they also reported high self-efficacy scores. However, it is not possible to draw conclusions with regards the direction of this relationship or whether it is causal or not.

Gordon *et al.* (2007) also offered a view of self-confidence as being associated with an individual's conception and experience of teaching. Again, this was only a brief reference to confidence, or in this case self-efficacy, in an investigation on teachers' conceptions of teaching statistics. Their analysis proposed that a teacher with a more sophisticated conception was likely to have greater self-efficacy due to the nature of this type of teaching:

This paper suggests a relationship between self-efficacy (Bandura, 1994), defined as perceived control over one's own functioning and the teaching environment, and conception of a teacher's role. This self efficacy...appears to increase as the focus moves away from the teacher...as central to the teaching experience towards a focus on illuminating the subject and then on students' ways of learning. The responsibility for learning shifts towards the student and the teacher's role changes from instructor to facilitator, or even to co-learner (Gordon *et al.*, 2007, p11).

Similarly, Carnell (2007) presented some data which proposed a link between an individual's conception of teaching and their confidence. In an analysis that aimed to illustrate what supported teachers to be effective there was a quotation from a teacher that repeatedly referred to confidence in relation to how they taught:

Teaching has to be much more interactive and you have to be confident. You have to accept criticism, disagreement and a number of different views. That approach is harder but with confidence is the ability to say I don't have the answer for that (Carnell, 2007, p33).

Although operating in slightly different ways in terms of direction of influence, there is a clear suggestion of a connection between more open approaches to teaching and teachers' confidence. Gordon *et al.* (2007) proposed that more student-centred approaches help in the development of confidence, whereas Carnell's analysis indicated that the more open approaches actually provided a greater challenge to an

individual's confidence due to the greater exposure to questioning and disagreement from students. These findings provide brief insight into a multifaceted construct that by no means operates in one direction and may vary by individual or point in time. In addition, it is also clear how the terminology in this area varies considerably and the limited attention that has been paid to this aspect of the learning and teaching environment.

## **Specific contextual issues within teaching and teacher development**

### **Relational aspects of teaching and the subject discipline**

Although it has been argued that an individual's conception of teaching is a relatively stable construct to which approaches to teaching are related (Trigwell and Prosser, 1996a), these approaches appear to be more open to variation as a result of context. Simply because an individual holds a sophisticated conception of teaching this does not provide an obvious blueprint for how this might translate into teaching approaches and methods (Entwistle, 2003). Lindblom-Ylänne *et al.* (2006) argue that the same teacher, on different occasions, may use approaches that match with student-centred teaching and at other times use those that fit with a teacher-centred approach, depending upon the context. The type of contextual factors that may contribute to this variation in teaching approach include factors such as the subject discipline being taught, the type of students who make up the group, the nature of the institution or department within which teaching takes place and the influence of external regulating bodies. Not only do these contextual aspects influence approach to teaching independently but they also interact with one another. In addition, even if they are all identical, it is unlikely that the experience of teaching or development will be the same due to variation in individual teacher characteristics and personality.

This infinite variation in context makes understanding teaching and teacher development extremely difficult and as already argued, far more complex than a simple analytic model can convey (Entwistle, 2003). The work on the approaches to teaching has to some extent acknowledged this *relational* perspective (Trigwell and

Prosser, 1996a, Prosser *et al.*, 2003) and Entwistle (2003) has provided a framework which attempts to map some of these contextual influences (Figure 2.5). The framework not only aims to outline the major influences on teaching but also to indicate how and the extent to which they may influence teaching (Entwistle, 2003). The categories on the left hand side of the figure indicate external influences from professional and validating bodies which impact mainly upon the development of course material. Those on the right of the figure are predominantly internal influences, such as institutional policy or departmental ethos, which tend to sway the design of the teaching-learning environments. Obviously there are also interactions between the two sides indicated by the arrows which link them.

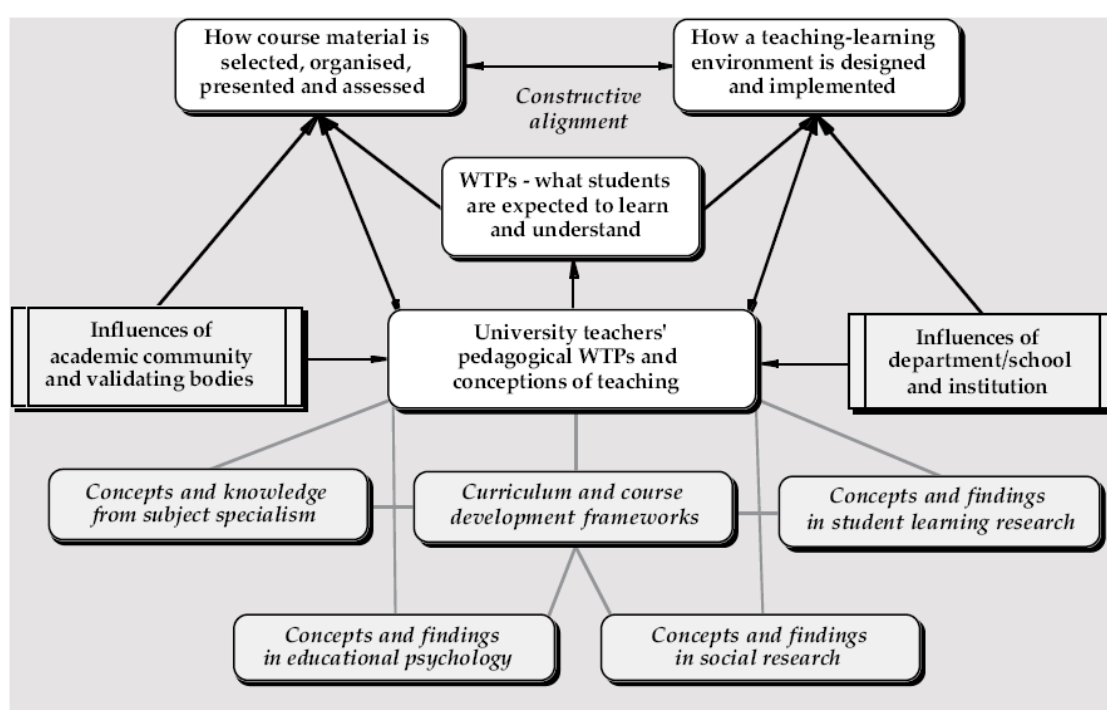


Figure 2.5 Influences on teaching and pedagogical ways of thinking and practicing in the subject (WTPs) (Entwistle, 2003, p5)

What is clear from this model, and also a great deal of other work which has investigated variation in approaches to teaching, is the particularly critical role that subject discipline plays in how an individual teaches. Interviews with teachers in different subject areas indicated major variation in how they conceptualised teaching and learning (McCune and Hounsell, 2005). From this McCune and Hounsell identified the concept of ways of thinking and practising in the subject (WTPs). Entwistle (2003) suggests that this is as a result of the subject discipline and uses



*pedagogical* WTPs to reflect this. To some extent this appears to be similar to Shulman's (1987) pedagogic content knowledge, but it can be argued to be much more than this. In the main, pedagogic content knowledge is about a teacher developing and using particular teaching strategies that they perceive to most effectively represent their specific subject. Although the concept of pedagogical WTPs includes this, it also acknowledges the more implicit implications of the subject matter for teaching approach. Entwistle clearly describes these more implicit aspects in the following:

The concepts, models and analytic procedures with which colleagues are most familiar also colour their thinking about teaching, affecting the metaphors they use, the evidence they find convincing, and the nature of the relationship they see between teaching and learning. [...]. It is also clear that the nature of the concepts within each discipline will affect the ways in which the ideas are organised and presented, what forms of assessment are considered to be appropriate, and how assignments are assessed. (Entwistle, 2003, p5)

Lindblom-Ylänne *et al.* (2006) have provided empirical data that indicate that teachers vary their approaches depending upon the subject discipline within which they teach. On the whole, their analysis tended to support what would be expected in terms of what is known about the nature of the disciplines and their academic cultures. For example, teaching in the 'hard' disciplines generally involved large lectures and laboratory simulations whereas the 'soft' category contained more tutorials, discussions and debates. These data simply confirm that teachers from a particular area tend to approach teaching in a slightly different way than teachers in another area. What was less fully considered and of particular interest for teacher development is *why* the teachers in the different disciplines elected to teach in this way. Was it due to this approach being most effective for students learning in this discipline or was it due to a particular way of thinking in this subject area? The findings also provided some suggestion that the same teacher may teach differently depending upon the context within which they are teaching. However this appeared as an illogical relationship with the teachers reporting more student-focussed approaches in 'less usual contexts'. It was suggested that further study of the explanations for the teachers' choices was required to clarify this issue.

Although the variation in approach in different disciplines is of interest, as it is unlikely that a teacher will shift significantly between disciplines, it fails to provide an insight into what prompts the same teacher to vary their approach. Therefore research which focuses more upon contextual variation in the same subject discipline is of particular interest in terms of how an individual goes about their teaching. A study by Prosser and Trigwell (1997) developed an inventory to assess university teachers' perceptions of their teaching environment (PTE) and administered this to 46 science teachers along with the ATI. The analysis produced systematic relations between scales on the PTE and ATI; indicating that high scores on the CCSF scale were related to perceptions that the teacher was in control of what and how they taught, the department valued teaching and that class sizes were not too large. Considering this relationship in terms of novice teachers it might be proposed that it is more likely that they would perceive the environment in a way that was most conducive to an ITTF approach to teaching. In other words, at first, they are unlikely to feel in control over what they teach or how they teach it, potentially be teaching first year modules where student number are typically high, and have little awareness of whether the department tends to support or reject teaching as a valued activity.

A more recent study by Prosser *et al.* (2003) suggested that contextual factors may be less influential upon teaching approaches in less experienced teachers. They found that senior teachers who provided a high quality learning experience had a coherent relationship between approaches to teaching and their perception of the teaching environment, whereas those senior teachers who provided lower quality learning experiences tended to have dissonant relations between their approach and perceptions of the environment. Such a conclusion would indicate that perception of the environment and its relationship to approach to teaching was of particular importance for the quality of learning experience for the senior teachers. However, this did not appear to be the case for the less experienced tutors and demonstrators, where, regardless of the quality of the learning experience, they showed dissonant relationships between the perception of the environment and their approaches to teaching. This finding suggests that the influence of contextual factors on approaches to teaching appears to be less important for this less experienced group of

teachers. A possible explanation for the reduced impact of context upon the less experienced teachers may simply be a lack of awareness of the contextual variation due to other factors being at the foreground of their attention at this stage of their teaching development. However, this suggestion is of obvious interest for the present study.

What have started to emerge in the above studies are a number of alternative influences upon how an individual goes about their teaching. On the one hand there is the suggestion that it is their overarching conception of teaching that informs an individual's approach to teaching and on the other there is evidence pointing to variation in context and discipline being influential over teachers' approaches. In addition, experience appears as an important factor, as it seems to be related to an individual's awareness of the context and therefore the influence this has on their teaching. There are two relatively recent, independent studies that have both attempted to scrutinise these influences by investigating the impact of context, discipline and conception of teaching upon the approaches to teaching (Lindblom-Ylänne *et al.*, 2006 and Norton *et al.*, 2005).

Although an aspect of the Lindblom-Ylänne *et al* (2006) work has already been reviewed in relation to subject discipline, there was also a second related study within this that also considered the influence of the wider teaching context upon teaching approaches. Data on the participants' conceptions of teaching were collected for two separate contexts: one that they considered 'usual' and one that was 'unusual'. The student-focused approach appeared as being the most variable category in different contextual situations. Of particular interest was that the teachers tended to adopt this approach in the more unusual contexts.

To an extent this contradicts some of the suggestions around the role of confidence in approach to teaching outlined above. Although self efficacy was only measured based on the disciplines in this study and not in relation to context, it would appear reasonable to propose that confidence is likely to be higher in the more usual than the unusual context. In returning back to the suggestion from Carnell (2007), that to

teach interactively you have to be more confident, it does not follow that teachers report more student-focussed approaches to teaching in more unusual situations. Lindblom-Ylänne speculates that the teachers with a more sophisticated view of teaching have an awareness of both teacher- and student-focussed approaches, yet they are prompted to use more student-focused approaches in those courses that are 'less mainstream'.

Although the investigation by Norton *et al.* (2005) does not shed any further light on this particular issue around the choices teachers make, it does provide additional insight into the influence that conception of teaching and context may hold for an individual's approach to teaching. The aim of the study was to assess the effect that the institution, discipline, experience and training had upon both the teachers' beliefs (conceptions) and intentions (approaches). The unique aspect of this study was the measurement of how these influences affected both the teachers' beliefs and their intentions. What appeared to influence teachers' intentions, or approaches, in different disciplines was the individuals' overarching conception of teaching. This claim was based upon the finding that teachers in different disciplines appeared to have variations in their beliefs that ran in parallel with their intentions. Therefore it was concluded that the teachers' beliefs about the nature of the discipline, in turn, influenced their teaching intentions. Scores were high for both the belief and intention to teach interactively in the Arts and Social Sciences disciplines, and were relatively lower for both the belief and intention in the discipline of Science. As these differences remained when institution, teaching experience and gender were factored into the analysis, Norton concluded that they 'appear to represent genuine differences in teaching conceptions across different disciplines' (Norton, 2005, p554).

However the influence of context appeared to have a quite different effect upon teaching than that of the discipline. Teachers in different institutions seemed to hold relatively similar beliefs or conceptions of teaching, yet these teachers often showed quite different intentions or approaches to teaching. More specifically, despite their similar conceptions, which were more in line with learning facilitation, they had very

different approaches in terms of interactive teaching, motivating students and training students for jobs. Such a finding is in agreement with the notion that these intentions were being driven less by the conceptions of teaching than by the contextual factors. The influence of teaching experience was also similar to that of institution, in that teachers with different levels of experience had similar beliefs about teaching, but they did show difference in some aspects of their intentions. Norton's overarching conclusion was that 'teaching intentions thus reflect a compromise between teachers' conceptions of teaching and their academic and social contexts' (Norton, 2005, p537).

The studies reviewed above lay some of the ground in terms of how the context of the learning and teaching environment may influence how an individual goes about teaching and developing as teachers. In the main, these investigations have used inventory data in order to analyse variation in conceptions and approaches in different circumstances. These methods provide a broad picture but the relational sensitivity of the constructs comes into question. Although the inventories may pick up variation in conception or approach for the same individual in particular instances, the reasons for this variation can only be speculated. In addition, the impact of the more specific, idiosyncratic elements of the teaching and learning environment are difficult to pick out.

### Experiences of interaction with students

An aspect of teaching that has been referred to at a number of points throughout the review is the teachers' experiences of interacting with students. This aspect appears to have been picked up in two quite different ways. As reviewed earlier in this chapter, Kember (1997) and Samuelowicz and Bain (2001) had significant debate over where interaction between teachers and students fell on the categories of description model. In these instances, interaction was seen as a conception in its own right (Kember, 1997) or as a belief dimension which were constituents of the conceptions (Samuelowicz and Bain, 2001). Since then, consideration of interaction has been lost to some extent as it has become less prominent in more recent work into the conceptions of teaching. However, research in relation to interactions with

students has been opened out into some potentially more fruitful directions. For example, engaging with students has been considered as being an important development activity (Åkerlind, 2007 and Martin and Luekenhausen, 2005) and experience upon which to reflect (McAlpine and Weston, 2000). As a result of this quite varied and limited reference to teacher-student interactions in the literature, defining and delimiting it as a construct is a difficult undertaking. For the current study, it is the nature of interactions with students and their potential power as an influence upon teaching that is of particular interest.

Although the conceptions of teaching research was concerned with the intentional nature of interaction between the teacher and students, there are suggestions that this may not be particularly important in terms of teacher development. If a teacher chose more interactive strategies, regardless of their intention, this would drastically change the context within which they operate. Therefore it may influence teaching at that point in time due to a change in context, but it may also influence teaching in the longer term due to the potential for greater exposure to feedback that this interaction is likely to bring. There is support for this line of reasoning in some of the arguments put forward by Devlin (2006). Devlin argues against the claims that skill-based teacher development is limited and that it is conceptions of teaching that should be the focus (Ho *et al.*, 2001). The premise of this argument by Devlin is that in order for teachers to have an effective repertoire of skills, they must have an 'acceptable' conception of teaching first, or alternatively that the use of particular strategies can help in the development of alternative approaches and conceptions of teaching. With brief reference to the broader area of psychology, Devlin notes the suggestion 'that if either behaviour or attitudes change, the other will follow' (Myer, 1996, cited in Devlin, 2006, p115). Therefore if an individual with a teacher-focussed, information transmission conception of teaching uses practices or behaviours that promote more interaction with students, there is the possibility that more student-focussed conceptions or attitudes may follow. A further argument by Devlin, again of great relevance to the present study, is that research into models of development in new teachers (e.g. Nyquist and Wulff, 1996), would suggest that conceptual development appears to develop later in their careers. In the early stages

of development, new teachers are more concerned with survival and developing skills to help them cope with the demands of teaching. It would seem unlikely that in developing their conceptions they would not draw on some of these earlier teaching experiences and strategies in order to create them. Therefore this would imply that, at this early stage, experience of interaction with students, regardless of intention, may be of importance for the resulting conception.

Although this helps to illustrate the potential importance of interactions with students for longer term development as a teacher, some of the evidence from Entwistle and Walker (2000) suggests that more sophisticated conceptions are necessary in order to make more immediate decisions that are likely to be needed during interactions with students. The influence of interacting with students in this situation can be likened with reflection-in-action in comparison with reflection-on-action (Schon, 1983). Entwistle and Walker use the concepts of ‘strategic alertness to classroom events’ and ‘teachable moments’ that are outcomes of a sophisticated conception of teaching. These refer to the teacher looking for ‘ways of involving the students more actively in some of the ‘big ideas’ of the discipline’ (Entwistle and Walker, 2000, p357). Entwistle and Walker referred to work by McAlpine *et al.* (1999) that found two thirds of changes to teaching in a session were unplanned and came from taking an opportunity that came to light during the teaching process. However it would appear logical that the chance of a ‘teachable moment’ becoming apparent during the process of teaching would be much higher if the teachers were involved with interacting with students. If this is accepted, this provides another example of the potential importance of experiences of interactions with students for influencing teaching and enhancing its effectiveness.

More direct evidence for the potential role of interaction with students influencing teaching comes from a study by McLean and Bullard (2000) where they used the written reflective portfolios from novice university teachers to provide data on how academics learn to teach. In their analysis they suggest that one of the most common themes in the teachers’ writing was their attempt to use participatory methods of learning in that all the teachers were keen to encourage student discussion and group

tasks. In addition a more recent study by Pickering (2006) assessed the process of teaching change in four novice teachers. In identifying the types of influences upon teaching that exist in the workplace Pickering suggested that ‘encounters with students were powerfully influential’ (2006, p328). Both explicit student feedback and more implicit student responses within teaching contexts were outlined as being ‘encounters with students’. The latter of these appears to be most akin to the concept of ‘experiences of interactions with students’, being discussed here. Throughout the analysis, Pickering stressed the importance of experience as a teacher and suggested that encounters with students could have a more powerful influence than some of the other experiences such as formal development programmes.

Again, much of this section has provided further weight to the recurring argument that the conception-of-teaching categories provide a good filter through which to observe teaching, but they often fail to pick out the nuances that may be of particular importance for understanding development, in this instance the influence of individual contexts. Towards the end of this section the review has moved back towards the development of teaching and to some extent literature that starts to consider the development of new and novice teachers specifically (e.g. Nyquist and Wulff, 1996 and Pickering, 2006). This area of the literature appears to be quite a mixture of different perspectives and methodologies. This eclectic mix of work has obvious relevance for the current investigation and therefore a more in depth review is warranted and this comprises the final section of the literature review chapter.

## **Professional development of new academics in higher education**

### **Model of professional development**

There is an extensive body of literature which investigates the general development of individuals as professionals (e.g. Argyris and Schön, 1974; Dreyfus and Dreyfus 1986, cited in Eraut, 1994; Eraut 1994; and Cheetham and Chivers, 2005). For example, Dreyfus and Dreyfus proposed a model of professional expertise where an individual moves across five levels starting at ‘novice’ and finishing at ‘expert’. At



the novice level there is strict adherence to rules and plans with little perception or judgement about the situational context. By the time an individual reaches the expert level they have an intuitive grasp of situations based upon the development of a deep, tacit understanding. Interestingly, the proposal for how an individual might come to this level of expertise matches well with some of the discussion earlier in the review with regards to teacher development. The majority of the authors who have considered professional development in general identify experience, informal and ‘on the job’ learning as being paramount in this process. However, much of the literature on professional development is theoretically driven and also extremely broad. Consequently, the literature is often quite detached from the lived experiences and concerns of the novice teacher in higher education.

Alongside this broad professional development literature some more teaching orientated models of development have been provided (e.g. Fuller, 1970, cited in Eraut, 1994). Fuller’s model was one of the first to identify the stages of change that teachers may go through during their development (Table 2.4). Although this was an early proposal and relates to teachers in all sectors, it appears to capture a great deal that has been used in more recent models of teacher development in higher education. In addition, it also has some quite obvious parallels with some of the work already reviewed on the conceptions of teaching (Kember, 1997) and conceptions of teaching development (Akerlind, 2003). The common pattern that seems to emerge from Fuller’s model and the more specific learning in higher education literature is that, broadly speaking, teachers shift from a focus upon self and the subject matter towards a focus upon the student and their learning.

Table 2.4. Fuller's model of teacher development (Fuller 1970, cited in Eraut, 1994)

I	Early phase	0	Concerns about self (non-teaching concerns)
II	Middle phase (competence)	1	Concerns about professional expectations and acceptance
		2	Concerns about one's own adequacy: subject matter and class control
		3	Concerns about relationships with pupils
III	Late phase (professionalism)	4	Concerns about pupils' learning what is taught
		5	Concerns about pupils' learning what they need
		6	Concern about one's own (teacher's) contribution to pupil change

More recent development models which specifically consider change that takes place in teachers in higher education have been proposed by Kugel (1993) and Nyquist and Wulff (1996). These appear to be strikingly similar to each other, but also to the earlier, more generic model developed by Fuller. The early stages of these more recent models are characterised by a focus on self and knowledge of the subject, with a transition to a focus on the skills and the process of teaching, and finally to a focus upon the student and learning. Kugel's model is slightly more involved and in particular it unpicks the process of teachers' increased focus upon the student. Once the teacher has moved through the focus on self survival and knowing the subject matter, Kugel proposes three stages of development where the focus is upon the student but in quite different ways; a focus upon the student as *receptive*, *active* and *independent*. Again there is obvious overlap here with the conceptions of teaching literature reviewed earlier and in particular the discussion around the important role of teacher-student interaction and introduction of student orientated tasks and activities. Focus upon the student becoming *active* appears to be a critical point of transition in Kugel's model of development in that 'noticing the importance of what the students do to their learning can change the professors' view of teaching' (Kugel, 1993, p322). Although these models provide a useful overview for tracking the development of new teachers, the validity of these for new teachers in the UK in varying subject areas can be brought into question. The models by Nyquist and Wulff, and Kugel emerged from research in US universities and colleges. A second issue is that the only insight into the methods of data collection and analysis in the

development of Kugel's model is that it was based in the informal observation of a few cases, while also looking at his own career. Additionally, both pieces of work acknowledge the notion that not everyone will go through all of these stages in exactly the same order. There is evidence from McLean and Bullard's (2000) research to suggest that these proposed models of development do not actually ring true. They found that novice teachers often held a student-focused conception of teaching and the problem was that as a result of inexperience and local 'micro-contexts' they often failed to put these conceptions into practice (McLean and Bullard, 2000). Therefore this leaves a number of unanswered questions with regard to why a teacher might not be able to operationalise their conception and what some of the influences are which act upon this development.

### Research on the development of new academics

In addition to the work described above, which identifies broad models for how teachers in higher education develop, a number of studies have attempted to drill down into particular aspects, specific to the development of new academics. These investigations constitute quite a small, but varied body of literature with regarding new academics in higher education. Many of these studies have addressed issues that are related to being an *academic* and this is often quite distant from the actual act of teaching and developing as a *teacher* in higher education. Some of the areas that the research into new academics has focussed upon includes; induction (e.g. Dunkin, 1990), constructs of the teaching-research nexus (e.g. Nicholls, 2005), the process of socialisation (e.g. Barkenhuizen, 2002), communities of practice within higher education (e.g. Viskovic 2006) and assessing programmes for the development of new academics (e.g. Pill, 2005).

There are however a handful of studies that have specifically investigated the development of new teachers in higher education. These do start to provide us with some greater insights into teacher development in higher education from a number of different perspectives and in a range of different contexts. In particular Boice (1991) provided a good account of new teachers' experiences over a period of one and two years in an American university. This investigation used a larger sample size and

specifically focussed upon teaching activities. Although it provided some broad findings it was also sensitive enough to pick out contrasting issues depending upon background and context. On the whole it suggested that the new teachers were slow in establishing themselves in terms of comfort, gaining student approval and moving beyond defensive strategies such as over preparation of teaching material. Also there were a number of reports concerning a lack of support for teaching from both colleagues and the institution as a whole. Participants described the perception that there appeared to be an assumption that the new academics knew how to teach. However, such a finding would seem to be heavily contextualised both in terms of time and space. For example, this is less likely to be the case in the UK in 2007 due to emerging structures and systems such as the Academy for Higher Education and compulsory teaching development programmes. Therefore there is a need for investigations in these new contexts to assess if issues such as slow rate of becoming established and low student satisfaction identified in Boice's (1991) investigation still hold true.

Some more recent work that is more contextually appropriate was conducted by Clark *et al.* (2002). This research identified a UK based teacher development workshop that focussed upon the specifics of teaching individual subjects. The premise of this work was related to some of the discussion earlier in the review with regards the importance of engagement with how to teach the subject, alongside the more traditional generic teacher development. Therefore it provided an overview of how a teacher could get to grips with the different traditions in terms of what and how, one teaches a subject. This approach to development appears to be in line with some of Becher and Trowler's (2001) work on new lecturers becoming part of an academic community or 'tribe'. Although Clark *et al.* (2002) introduces examples of workshop activities for this type of subject specific teacher development it is only for one particular subject area (geography and environmental science) and it provides no analysis on how the participants developed as teachers through engaging in the workshop. Therefore it would appear that we still know relatively little about how an individual develops as a teacher in particular disciplinary settings.

There are some studies that provide a better insight into how an individual may learn to teach in higher education. However, the perspective taken is at the opposite end of the scale from the investigations described so far in this section, which have considered the role of formal development programmes. Eraut's (2000) theoretical analysis of professional education and learning in the workplace advocates the importance of what he terms 'non-formal learning'. Again, this has already been alluded to at numerous points throughout the review, particularly in conjunction with tacit knowledge with which it is inextricably linked. Of interest for the current investigation is Eraut's typology of non formal learning (Figure 2.6). Eraut suggests that non-formal learning has two main dimensions, one representing the intention to learn and the other that identifies the timing of the event that provides the focus for the learning. The first dimension, which represents the level of intention to learn, contains deliberative learning at one end of the scale and implicit learning at the other. At the mid-point of this scale there is another label, *reactive learning*, which is considered as being where learning is explicit but takes place in response to recent, current or imminent situations without any time being specifically set aside (Eraut, 2000). This type of learning appears to hold strong relevance to the development of new teachers and some of the discussion earlier in the chapter in relation to the potentially important role of teachers' experiences of interactions with students. It would seem that the development that may occur as a result of such experiences appears to match well with this form of non-formal, reactive learning proposed by Eraut. The second dimension in the non-formal learning typology, which relates to the timing of the event, contains three different elements that refer to whether the focus for the learning is from a past episode, present experience or part of a possible future behaviour. When the two dimensions are combined to provide a complete typology it would appear that the majority (Figure 2.6, those in italics) could actually come from teachers' experience of interacting with students.

Time of Stimulus	Implicit Learning	Reactive Learning	Deliberative Learning
Past Episode	<i>Implicit linkage of past memories with current experience</i>	<i>Brief near-spontaneous reflection on past episodes, communications, events, experiences</i>	<i>Review of past actions, communications, events, experiences. More systematic reflection</i>
Current Experience	<i>A selection from past experience enters the memory</i>	<i>Incidental noting of facts, opinions, impressions, ideas. Recognition of learning opportunities</i>	Engagement in decision-making, problem solving, planned informal learning
Future Behaviour	<i>Unconscious effects of previous experiences</i>	<i>Being prepared for emergent learning opportunities</i>	Planned learning goals. Planned learning opportunities

Figure 2.6 A typology of non-formal learning (Eraut, 2000, p116) (*Italics indicate instances where experiences of interactions with students may act as the source for non-formal learning*)

A large scale, empirical study by Knight *et al.* (2006) provided further support for the critical role of this non-formal learning for teachers in higher education. Over two thousand teachers were asked about how they learned to teach. The top three responses were; simply doing the job of teaching in higher education, the experience of having been taught in higher education and conversations with others at workshops and conferences. However, the first placed response, on-the-job learning, scored nearly twice that of the second place response. Although this helped to confirm some of the aspects from Eraut's (2000) theoretical analysis, it was such a large scale investigation that some of the more local contextual aspects that may have influenced this form of learning to teach were not investigated. For example, some of the factors that have been suggested to influence non-formal learning included the subject content and working context (Eraut, 2000). Such a finding would indicate that there is still a need to investigate how this on-the-job learning operates in individual teachers over a period of time in different subject and working contexts.

To conclude this section, it would appear that there is a limited amount of literature which has focussed specifically on how new academics learn to teach in higher education. Additionally there are a number of potential issues with the literature that does currently exist in this area. First of all there is a suggestion that the models of teacher development are rather over simplistic with little evidence of a strong

empirical basis. Secondly, there are investigations (e.g. McLean and Bullard, 2000) that have started to demonstrate that development in reality does not appear to function in the way in which the current models of development represent. Finally, even if the current literature in this area is accepted, the focus in terms of research into new teacher development appears to have been predominantly upon the *nature* of development. What we seem to remain particularly unclear about are the *influences* that are acting upon development.

## Summary

This chapter has considered many different aspects of how academics go about teaching in higher education and what emerges from this review is that how teachers *develop* is very much unresolved. The conceptions of teaching are an aspect of the literature where there is substantial work. However, this only represents one particular way of viewing teaching that to some extent reduced its complexity so it becomes distant from everyday experiences. In addition, due to the nature of the conceptions of teaching framework, in the main, how teachers develop has been inferred and therefore may not provide a true reflection of the development process. Those studies that have tried to track development using these conceptual categories have encountered a number of limitations and provided a number of unanswered questions.

There are some areas of the literature that have moved away from this approach and towards the use of more varied methodologies in order to stay alert to the possibility of a number of other aspects in relation to teacher development. Despite this, few have followed-up teachers in a longitudinal design and the current study attempts to redress this gap in the literature. From this review, a number of the more salient factors in relation to teaching and teacher development have been identified. These include; teacher knowledge, reflection, confidence, context, subject area and experience of interacting with students and such factors act as an important focus for the analysis.

This review of the current investigations into new teachers in higher education demonstrates that although there are some models of development, they are often extremely generic with no reference to the multiple influences acting upon the individual. As with the literature concerning conceptions of teaching, this makes it difficult to capture the real, everyday experiences of what it is to develop as a teacher in higher education. Therefore the current study will focus upon the core aspects which influence an individual's development. The research questions for the current thesis that emerge from this review of the existing literature are:

1. How do these new teachers approach their teaching and in what ways do their approaches develop over time?
2. What are the major influences that lead to the development of these new teachers' approaches to teaching?
3. How and to what extent are the participants' approaches to teaching influenced by the varying contexts of teaching?



## **CHAPTER 3 - RESEARCH DESIGN, DATA COLLECTION AND ANALYSIS**

### **Introduction**

The following chapter aims to describe and justify the methods employed in the current investigation, the main elements of which are identified in Figure 3.1. The chapter is split into three main sections. Section one discusses the broader issues of research design and the methodological decisions that were taken. This aims to justify the methods used and consider the factors that helped to inform and influence these choices. Section two considers the aspects of data collection, which are represented in the top half of Figure 3.1, and the third section of the chapter provides an overview of the data analysis, shown in the bottom half of the figure.

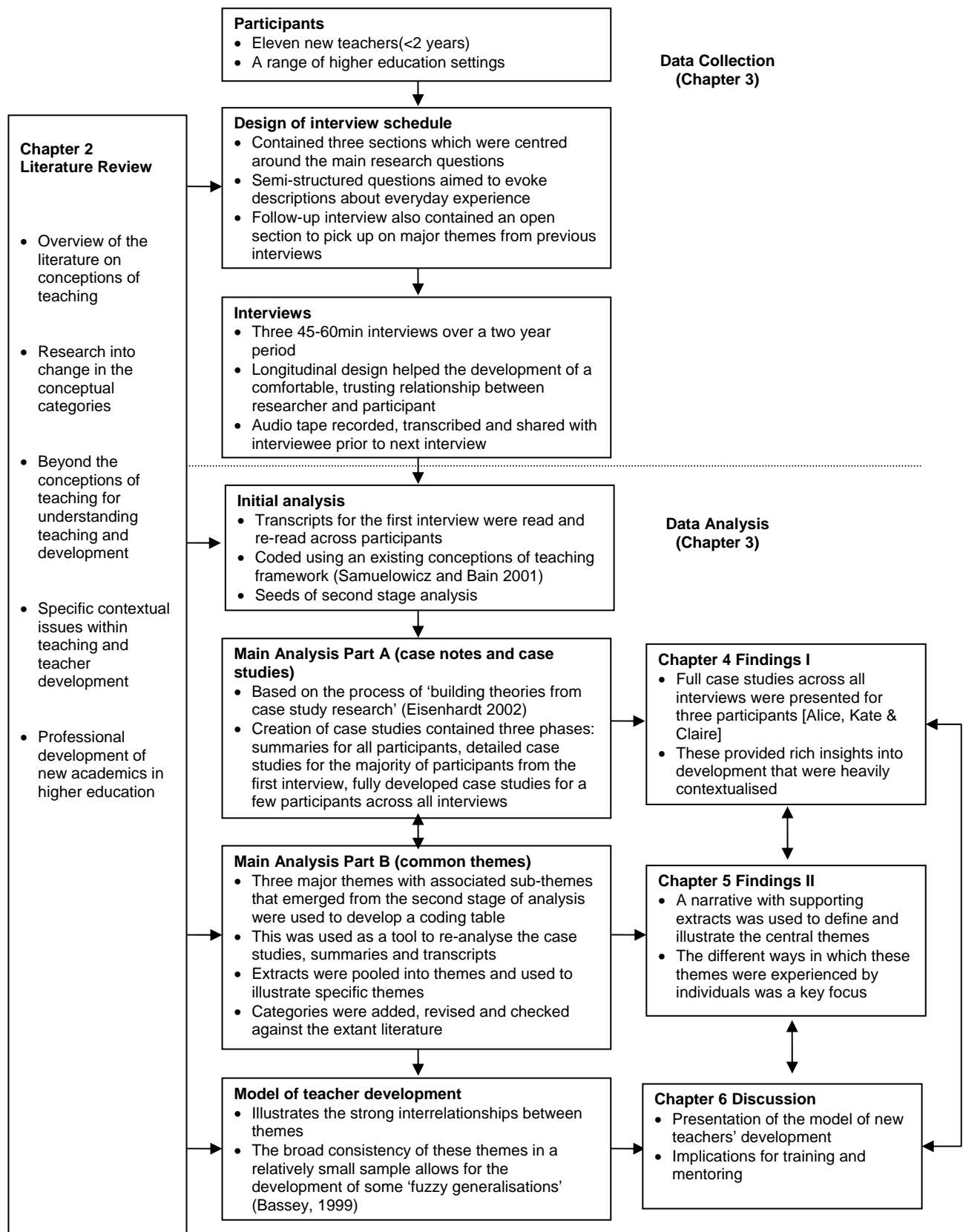


Figure 3.1 Overview of the data collection and analysis methods process

## Research Design

Research traditions within the approaches to teaching literature:

### Phenomenography

As was apparent earlier in Chapter 2, much of the research into teachers' conceptions and approaches to teaching within higher education has developed out of a field of study designated as 'student learning research' (Biggs, 1999). This body of research originated from the seminal work of Marton and Saljo (1976) with first-year university students where they identified deep and surface approaches to learning. As the importance of these approaches to learning for teaching became clear, research branched out from this original interest in student learning to similar work with teachers (Dall'Alba, 1991; Samuelowicz and Bain, 1992; and Prosser *et al.*, 1994). As a result the studies on teachers' conceptions and approaches often mirrored methodologies to those that had gone before with students. In particular the research approach used grew out of a number of studies with students in Gothenburg (Marton and Saljo, 1976), and it was sometime after this that Marton reflected upon the character of this work and named the research *phenomenography*.

The development of phenomenography and its theoretical foundations are far from straightforward. There is still continuing debate between the originators (Marton and Säljö) as to what the product of the phenomenographic approach actually represents. On the surface, there appears to be sound agreement that phenomenography aims to explore the qualitatively different ways in which individuals experience, conceptualise and understand abstract concepts such as learning and teaching. However, as with the majority of research traditions, new investigations and researchers have used the approach from a number of different positions. Although predominantly in educational settings, phenomenography has been used in schools and universities, to assess conceptions of learning and conceptions of teaching, in different countries and in a range of subject areas. Therefore some variation in its interpretations and evolution to fit particular contexts is not surprising. Also, what has potentially contributed to variation in the use of phenomenography is a lack of

specificity and explicitness with regard to the methods for both data collection and analysis, but also its conceptual underpinnings (Richardson, 1999).

Although phenomenography appears as a rather fluid approach to research, there are several theoretical and practical aspects that are more established. The first aspect to consider is the outcomes of the approach and these take the form of ‘categories of description’, which represent the number of different ways that a phenomenon is experienced by participants. Together these categories create what has been defined as the ‘outcome space’ (Marton and Dahlgren, 1976). A second key element of phenomenography relates to the structure of this outcome space. This structure, which is defined by the relationship between the categories, provides a picture of how the different ways of experiencing are linked together. Åkerlind (2006) argues that this structure is the least well understood aspects of phenomenography and is based upon a key epistemological assumption of the approach. This assumption acts as a third key aspect of the approach, which is that phenomenography investigates from a ‘second-order’ perspective in term of how a phenomenon is experienced by others rather than how it appears to the researcher (first-order). As a result a way of experiencing a phenomenon is considered as an internal relation between the individual and the phenomenon (Marton and Booth, 1997). In other words it takes a non-dualistic perspective in that the individual and the world in which the experience takes place are not separate. Such an assumption leads to the expectation that different ways of experiencing will be logically related as they are based upon a common phenomenon (Åkerlind, 2006). Based upon this epistemological basis of a phenomenon a key premise is that the structure of the ‘categories of description’ is typically seen as being hierarchically related. This hierarchical relationship can be considered a fourth aspect of phenomenography where each category subsumes the characteristics of those below it in the order. A fifth key characteristic of phenomenography is the acceptance that there is likely to be variation in an individual’s experience based upon situational change. Therefore the same individual in a different context may bring certain elements of an experience into the foreground and push others into the background of their awareness (Prosser and Trigwell, 1999). Again this highlights the relational nature of phenomenography.

The sixth and final aspect to consider in terms of phenomenography is that the categories 'emerge' from the data rather than being pre-determined. Such a notion is as a result of analysis which is iterative and requires constant comparison, similar to that of grounded theory (Glasser and Strauss, 1967).

There have been criticisms of phenomenography as a research approach from a number of different standpoints. Obviously there are the ubiquitous paradigm issues as to the validity and reliability, or credibility and trustworthiness, of qualitative data and their analysis but this broad debate is taken up elsewhere (Lincoln and Guba, 1985). A more pertinent issue for phenomenography is the extent to which the outcomes of the analysis (the categories of description) reflect the experience of the individual compared with the prior experiences and judgements of the researcher. As one of the fundamental aspects of phenomenography is that the data are supposed to represent an individual's experience from a second-order perspective, this is a critical issue. A number of authors have critiqued the extent to which the categories appear as pre-conceptions of the researcher (Webb, 1997 and Richardson, 1999). These concerns relate to whether the categories do emerge from the data or are constructed by the researcher. There seem to be parallels here with the criticism that the Approaches to Teaching Inventory (ATI), which was developed from phenomenographic research, contains scales which conveniently match those of the approaches to learning (Meyer and Eley, 2003). In other words, there is a suggestion that the categories were pre-ordained due to the researchers' awareness of the conceptions of learning categories. Such pre-ordination resulted in categories that were constructed, rather than emerged from the data. On the other hand, a view that phenomenography should be purely discovery would discount the interpretive nature of qualitative research and the non-dualistic premise of the approach described above. Based upon this dichotomy between discovery and construction of the categories, Sandberg (1997) suggests that the categories should be constituted by the researcher in relation to the data and that they need to maintain 'interpretive awareness'. McKenzie (2003) defines this as being:

A reflexive process whereby the researcher constantly checks any potential interpretations against the data itself, and maintains a critical awareness of their prior knowledge at all stages in the research process.[...] The researcher is constantly reflecting on whether interpretations relate to the experiences of the interviewees and not simply to the researcher's prior experience (McKenzie, 2003, p92).

A separate but related issue with regarding what the outcome of phenomenographic research represents, is the nature and meaning of the interview data. Säljö argues that phenomenographic research produces descriptions simply of accounts, whereas Marton considers the descriptions as being of the experiences themselves upon which the respondents have reflected (Entwistle, 1997). What this comes down to is the connection between language, in the form of interview accounts, and an individual's everyday experiences. There is some suggestion that this connection may not always be particularly strong. A study specific to teaching in higher education exhibited significant disjunction between conceptions described during interview and claimed educational practices (Murray and MacDonald, 1997). Argyris and Schön's work, which differentiates between theory-in-use and espoused theory, also provides support for a lack of connection between experience and descriptions. Therefore it is important that the interviewer uses sufficient probes and cross-questioning to ensure that the participant described concrete instances and experiences, as this may act to alleviate this limitation to some extent. With these issues in mind, it may be fruitful to explore in more detail the wider methods used in conception of teaching studies and review their associated strengths and limitations.

### Other aspects of the research approaches used to investigate teaching in higher education

Although phenomenography has been a dominant research approach in the area it has evolved and other methods have been used in order to help create a fuller picture of teaching in higher education. As a result, there appear to have been a number of phases to the research into teachers in higher education, which have required or developed quite distinct methodologies (Table 3.1). A range of different approaches have been taken in investigations and there has also been some natural development of methods in order to investigate various dimensions of the conceptions of teaching. The first of these phases were the original studies into the conceptions of teaching

which all used interviews with academics to collect data (Kember, 1997). These were all in an open-ended style and used a semi-structured framework in order to elicit the perceptions of the teacher. This approach in itself has been criticised due to the claim that it only ‘tells half the story’ (Kane *et al.*, 2002). Concerns are grounded in the interviews only providing an insight into espoused theories (i.e. what teachers say about their practice and not what they actually do). However, there is some evidence to suggest a good relationship between interviews with teachers and actual teaching approaches, as identified from observations of their practice (Martin *et al.*, 2000 and McKenzie and Scott, 1993). The use of interview can therefore be justified as, to some extent, the responses can be used as a starting point for analysing actions and experiences. Nevertheless we must remain alert to the limitations of individual accounts (Entwistle, 1997). Additionally it is also important to be explicit within this form of research that what is being investigated are teachers’ experience of development and not their observed behaviour.

Table 3.1 Summary of the phases and associated methodologies of research into the conceptions of teaching

<b>Era</b>	<b>Key Authors</b>	<b>Phase</b>	<b>Methodological Comment</b>
1990-2001	Dall’Alba (1991), Martin and Ramsden (1992), Prosser <i>et al.</i> (1994), Samuelowicz and Bain (1992, 2001)	<i>Original studies into conceptions of teaching</i>	Interview based and mainly phenomenography orientated
1994-2005	Kember and Gow (1994), Trigwell and Prosser (1996b)	<i>Development of inventories to assess teachers’ approaches to teaching</i>	Design and revision of an Approaches to Teaching Inventory (ATI) for larger cohort studies
1999-2008	McKenzie (1999) Ho <i>et al.</i> (2001), Gibbs and Coffey (2004), Postareff <i>et al.</i> (2007), Light and Calkins (2008)	<i>Investigations to assess change in conceptions of teaching</i>	Usually contained a pre-post intervention collection to identify any change in conceptual category
2000-2007	Entwistle and Walker (2000), McAlpine and Weston (2000), Pickering (2006), Carnell (2007)	<i>Smaller scale investigations to consider specific aspects of the conceptions of teaching</i>	Relatively small sample size with varied collection and analysis methods

Another criticism with interviews as the form of data collection in the conception of teaching studies is the style of questioning that has been used. Often a directional influence from conceptions to practice has been claimed; with Kane *et al.* (2002) suggesting that research into university teachers' conceptions is grounded in the understanding that the conceptions drive teachers' practice. However, Eley (2006) suggests this may only be an artefact of the general, open interview questions used (e.g. 'what is teaching?'). Entwistle (1997) also highlighted a number of points of caution in conducting phenomenographic research of which the form of questioning was one. Entwistle suggested that it was important that questions allowed individuals to account for their actions within their own frame of reference and also ensure that questioning moved from actions to experience and from concrete to abstract. Therefore it is important to remain aware of this in the design of interview schedules and balance general questions with more specific enquiry into day to day activity.

In all of the original studies into conceptions of teaching, interviews were tape recorded and full transcripts produced. As a result, the analysis followed a qualitative form with the outcome, in all cases, being the identification of a limited number of categories. Broadly, this required the use of a grounded approach (Glaser and Strauss, 1967) with the categories emerging from the data. However, some of the studies (e.g. Prosser *et al.*, 1994) claimed a phenomenographic approach. In order to check for the quality of the categories the majority of the studies identified independent analysis of the data by two or more researchers and the use of an iterative process where categories were identified, redefined and then checked (Kember, 1997). Kember also highlighted that although there appeared to be broad agreement in the categories, which suggests good authenticity of the analysis, there were variations in terms of the demarcation of categories, the relationship between them and the dimensions used to define them. These issues start to indicate limitations in a form of analysis of which the aim is to identify categories of description. It is likely that these limitations may be magnified when attempting to identify development over a period of time where greater subtlety is required.



As a result of this relatively time-consuming form of data collection and analysis the original studies into teachers' conceptions used relatively modest sample sizes of between 12 and 24 academics. Due to such comparatively low numbers researchers found it difficult to identify meaningful relationships between conceptions of teaching and other variables such as student learning. For this reason two authors in particular started to develop an inventory that was based upon data from earlier phenomenographic studies (Trigwell and Prosser, 1996b). Yet despite the advantage of being able to sample large numbers of teachers there have been a number of concerns with such a research tool. Some of the limitations of the Approaches to Teaching Inventory (ATI) have already been discussed in Chapter 2, but those which are most relevant to the present chapter can be summarised as being:

- The inventory provides quite a simplistic polarised view of teaching in higher education that appears quite removed from day to day teaching experience.
- There are a number of questions over the rigour in the development of the original ATI in terms of the scales being based upon interviews with twenty four science teachers.
- The ATI only provides two of the five approaches to teaching originally identified and these categories seem to be aligned conveniently to the surface and deep approaches to learning.

More recently researchers started to use both more traditional phenomenographic approaches (McKenzie, 2003 and Ho *et al.*, 2001) but also inventory based studies (Gibbs and Coffey, 2004 and Light and Calkins, 2008) in order to monitor changes in teachers' approaches over time. However, it can be argued that some of the methodologies used in these studies do not allow for an authentic insight into teachers' development in higher education. Firstly, there is a lack of sensitivity in the categories to pick up change, which has already been considered at some length in Chapter 2. Also, due to the abstract nature of this type of analysis, it makes it extremely difficult to explore the types of factors influencing an individual's development. Finally, the Ho *et al.*, Gibbs and Coffey and Light and Calkins investigations collected baseline and follow-up data one year later in order to assess change in conception. One year is a short follow-up time to monitor change in such

a complex behaviour as teaching and would not have allowed individuals to reflect upon or consolidate their development from one academic year to the next. In particular it did not provide time for the teachers to modify and repeat a particular teaching activity with a different group of students. The longitudinal design of the McKenzie investigation addressed some of these concerns as twenty-two of the teachers were interviewed three times over a two-year period.

The limitations of analysing teaching, and in particular the development of teaching, through the use of conceptual categories has started to be addressed through the introduction of some new and quite varied methods. A number of, often smaller-scale studies, helped to highlight some of the more idiosyncratic aspects of teaching in higher education to be unpicked. The relative drawbacks and merits of analytical categories in contrast to more individualised holistic accounts of teaching have been discussed in Chapter 2. However, it is of no surprise that these two different approaches require quite different methods of analysis. Therefore some softer, more flexible styles of inquiry that do not have such strict boundaries as phenomenography are becoming more commonplace within the literature (Table 3.2). What becomes clear from the review of methods used in these types of investigations is that they contain some quite similar methodological characteristics. Firstly, the sample size was relatively low, which is likely due to the extensive and in-depth data collection methods. Secondly, in the main the data analysis described was broad and open, although case studies were a common aspect. Thirdly, the studies often described returning back to the participants to check their analysis and the themes that had emerged.

Table 3.2 Methodological details of recent research that has provided a more personalised insight into teaching in higher education

Author	Participants	Data collection	Data Analysis
Entwistle and Walker (2000)	Single participant identified as holding a sophisticated conception of teaching	Retrospective narrative account	A detailed case study of a lecturer's conceptual change and related to key aspects of the literature
Hativa (2000)	Two instructors with the lowest ratings from student feedback in a law school	Pre and post treatment for improving instruction. Interviews, student ratings and video recorded classes. Students were also interviewed regarding the instruction	Case study using triangulation of a) methods, b) sources and c) investigators
McAlpine and Weston (2000)	Six professors who were recognised for their teaching excellence with a minimum of 10 years of experience	Each professor was videoed for one-third of a course (13h). Pre and post class interviews were held with the post class interviews containing stimulated recall from the video recordings	Transcripts were coded and constructs from the literature were drawn upon. A symposium was held with the six teachers which helped to confirm findings
Pickering (2006)	Four teachers were selected which provided a mixture of disciplinary interests and gender	Semi structured interviews which were also informed by observation and stimulated recall interviews using videoed teaching events. These were undertaken three times over the year. Reflective written commentaries were also gained from each teacher	Open coding framework in an inductive and iterative process (Lincoln and Guba, 1985). Progressive focussing was used which provided a framework for further coding in relation to other factors
Carnell (2007)	Eight teachers to represent as much difference as possible in terms of discipline, experience, area of institution	Single taped interviews that were transcribed	Analysis of interviews used constant comparative method (Strauss and Corbin 1997). Theoretical dimensions emerged from this and then these were tested through sending draft papers to participants and holding second meetings with some where themes were discussed

The above review of the traditional methodologies used in investigating conceptions of teaching in higher education acts as an important backdrop prior to identifying the

main decisions taken in the current study. The following section will outline these decisions and where relevant, return back to some of the above literature and wider methodological writings, to show how they have informed the methods used in this thesis.

### Main methodological decisions: Longitudinal investigation of teachers' development

The longitudinal design of the investigation was the most distinctive and is a novel aspect of the current work. Although there were a number of logistical problems with this form of investigation, such as the length of the data collection period and therefore the potential for participants to drop out, this approach was considered as being best suited to the creation of an accurate and rich picture of how new teachers in higher education developed. The other possible approach for assessing development was to rely upon participants' retrospective accounts. However these have the potential of being clouded due to the passage of time but also distorted by an individual's current conceptions (Entwistle and Walker, 2000).

As identified in the previous section, although a number of studies have used data collection at two different time points over the course of a year, there is only one other study to have had a second follow-up interview over an extended period ( $\geq 2$  years) (McKenzie, 1999). A third interview acted as a critical data collection point in the current investigation for a number of reasons. Firstly it increased the window through which development was being observed, both in terms of the amount of data collected but also the timeframe over which it was collected. Secondly it allowed a number of emerging themes from the first and second interviews to be further discussed, checked and confirmed with the participants. Thirdly, as a result of the repeated meetings, by the time of the third interview a genuine relationship and sense of trust appeared to have been developed between the interviewer and the participants. Fourthly, it meant that the participants were often describing teaching of the same module or course for the second time with a different group of students. Such follow-up provided some vivid insights into development that collection points simply at the beginning and end of an academic year might not

have. It was this type of data that allowed for a more fine-grained analysis that focussed upon individuals in varying contexts over time.

The longitudinal nature of the data collection also became a particularly valuable quality check of the trustworthiness and authenticity of the data. In particular this type of follow-up was important as a form of ‘respondent validation’ (Reason and Rowan, 1981). Respondent validation is based upon the suggestion that the researcher should return back to the subjects with their initial analysis and then refine these based on the participants’ responses. The follow-up interviews allowed for this to occur and it will be described further below, in the section which considers the development of the interview schedules.

## Context

As one of the main aims of the thesis was to identify how the development of new teachers was influenced by the varying dimensions and contexts of teaching, establishing a range of different participants was an important component of the research design. The participants therefore varied, not only, in terms of their subject discipline but also the higher education context within which they taught. In order to help with recruitment and minimise attrition, contexts were chosen with which the researcher had connections. As a result half of the participants were within the broad discipline area of sports-related studies; this had a number of benefits. Firstly, sports-related studies are a mixture of relatively young discipline areas, which means that a large proportion of the teachers are relatively new to teaching and there is little published pedagogical research specific to this discipline. Secondly, the researcher’s familiarity with this area helped with recognising any descriptions from the participants that were discipline-specific. The other half of the participants were from a range of discipline areas but came from the same institutional setting as one or more of the sports-related teachers. Such a sample allowed for comparison within institutions but between subject areas.

In order to make comparisons across institutional contexts, a range of higher education institutions were used. These included a new university, two old

universities and a further education college where higher education programmes were delivered. On the whole the broad pedagogical ethos was similar between these institutions as they all used predominantly traditional face-to-face methods which comprised a main theory-based session or lecture with an accompanying seminar or practical activity. The majority of the participants (all but two) were from what would be classified as teaching- as opposed to research-led institutions. All of the participants had experience of teaching a range of different levels of student on the programme and some taught across different programmes but within the same broad discipline area. In addition all of the participants were engaged in their institution's postgraduate teaching programme at some point throughout the data collection period. These programmes all worked towards qualifications that were based upon either the Higher Education Academy (HEA) accreditation criteria or Further Education National Training Organisation (FENTO) standards. Despite these broad criteria and standards it is likely that the experiences of individuals on these programmes varied considerably as a result of the institutional and programme team culture and ethos.

## Interviews

The use of interviews to gain data on how new teachers developed was chosen as the main collection method. This decision must be justified both in terms of the aims of the investigation but also the other possibilities for gaining an insight into teaching. After considering the research traditions in the area of conceptions of teaching, as outlined above, an initial decision was taken to combine the use of interviews and questionnaires as data collection tools. Observations of teaching prior to each interview were also mapped out in the research plan, but this was quickly discounted for a number of reasons including:

- The intention was that the thesis should grow out of the previous work on the conceptions of teaching and therefore investigate teachers' experience of teaching and development and not the observed behaviours
- The feasibility of observation was considered and for the data to be manageable either the sample size or number of sampling points would have

had to have been substantially reduced, each of which would have had repercussions for the methodology

- The limitations of observing a small number of teaching episodes for identifying development and in particular the influences upon development
- A number of participants reported that they would be either uncomfortable or unwilling to be observed as part of a piece of research
- The lack of experience of the researcher to make worthwhile or meaningful observations of teaching

The questionnaire that the study intended to use was a modified version of the Approaches to Teaching Inventory (ATI25) (Prosser and Trigwell, 1999). However, as the current investigation aimed to yield rich, fine-grained analysis with a relatively small sample size, an inventory was unlikely to provide any added value.

Considering this and some of the wider limitations of the ATI, summarised above, the use of the inventory data in the analysis was discontinued. Therefore interviews became the sole form of data within the investigation.

As the main form of data collection it was important to ensure the quality of the interviews. The selection of semi-structured interviews provided a balance between a flexible approach in order to provide data that reflected idiosyncratic experiences of the teachers and the need for consistency of questioning to give a sense of change or development in the participants' responses. As highlighted by Wengraf (2001) although interviews are *semi*-structured in nature, they require *full* preparation as most of the informants' responses (50-80%) cannot be predicted in advanced.

Therefore Wengraf stresses the need for a significant amount of informed improvisation on the behalf of the interviewer, which requires experience and/or extensive planning and preparation.

When using interviews it is important to consider what it is that the resulting interview transcripts represent. Silverman (2000) suggests that interviews can either be treated as giving direct access to 'experience' or as actively constructed 'narratives' of activity. If the traditional phenomenographic perspective is taken, that

‘ways of experiencing’ comprise the main unit of analysis, then it would be sensible to consider the interview transcripts as giving access to an individual’s experience of a particular phenomenon. However this is a strongly debated issue in the literature on phenomenography and there are problems with this assumption. Säljö (1997) argues that interviews provide little more than utterances from individuals made in specific situations and with varying motives and therefore this may actually point to something else other than a way of experiencing. For example, Säljö suggests that the utterances may actually be to ‘fulfil one’s communicative obligations when being asked a question or a wish to not lose face when confronted with an abstract and maybe difficult question’ (Säljö, 1997, p177). Alternatively, it might be an attempt to impress the interviewer by referring to acts of teaching that they know about rather than those which they have experienced. This in itself has been identified as a problem due to the existence of a disjuncture between described conceptions and claimed teaching practice (Murray and MacDonald, 1997). However, it would appear reasonable that the form of questioning and atmosphere created in the interviews may to some extent reduce the likelihood of the responses representing these less desirable qualities. In the current study questions were designed with the objective of ensuring that the participants reflected upon real and concrete instances in order to elicit their experiences. Also, as already mentioned, the longitudinal design of the interview process appeared to allow for the creation of a good rapport between the interviewer and interviewee that would not have been possible with a single interview.

## **Data Collection**

The following section will outline the processes that took place between confirmation of the main design of the study, as highlighted above, and the production of full transcriptions of the interviews. This was the main period of data collection and encompassed the selection of teacher participants, designing the interview schedule, conducting the interviews and transcribing the audio taped interviews. It is also important to note that, due to the longitudinal design of the study, it was not a case of simply collecting the data and then undertaking the analysis, rather there was extensive overlap between the two. Such overlap was not



only due to the large time span of the collection period but also the necessity for interim analysis to inform the ongoing data collection.

## Sample

Originally, fifteen teachers were approached to take place in the investigation with the intension that twelve would complete the entire data collection process.

However, four dropped out of the study, two after the first and two after the second interview, and therefore the final sample consisted of eleven teachers (Table 3.3).

The reason for drop out varied: it was decided that two participants would cease to take part in the study due to their temporary contracts coming to an end and their having gained employment outside of teaching in higher education; whereas the other two participants dropped out for personal reasons.

The main criteria for selection in the study were firstly that, at the time of interview, the participant was teaching a module or course on a programme validated by a higher education institution and secondly, that at the time of the first interview they were classified as 'new' to teaching. Eight of the participants were in their first year of teaching, two were in their second year of teaching and one participant was in their third year. As a result of chance the sample was equally split between genders and, although there was a bias towards sport related studies and one particular institution, there was an adequate range for contextual variation to be identified as Table 3.3 indicates.

Table 3.3 Participant details (For the purpose of anonymity the names of the individuals were changed. For some individuals these were non-gender specific)

<b>Name</b>	<b>Gender</b>	<b>Institution</b>	<b>Experience at time of first interview</b>	<b>Subject</b>
Kate	F	A	6 months	History
Claire	F	B	7 months	Physiotherapy
Alice	F	B	15 months	Psychology
Ruth	F	C	9 months	Sports Studies
Dave	M	B	5 months	Psychology
Simon	M	C	16 months	Sports Science
Anne	M	C	9 months	Sports Science
Ben	F	B	3 months	Psychology
Lucy	F	B	1 month	Sports Studies
Gary	M	B	10 months	Physiotherapy
Tom	M	D	29 months	Sports Science

After the participants had been approached informally, a letter was sent to explain the nature of the study and the commitment that was required of them. The main aspects highlighted at this stage were: that there would be three interviews over a two-year period; the need to complete an ATI prior to each interview; that the interviews would last around sixty minutes and would be tape recorded; and to provide reassurance of the security, confidentiality and anonymity of the information that they would provide. Participation in the first interview was construed as indicating their informed consent to take part in the study. A contact telephone number and email address was taken for each participant and they were asked their preferred way of being contacted. This form of contact was used not only to arrange meetings but to maintain a relationship over the course of the data collection period. The intention of this was not only to try and minimise drop-out but also create a rapport that would transfer into the interview situations.

As all the participants were busy academics it was also important that the investigation supported them in some way. As all participants were engaged in institutional development programmes that focussed on reflective practice, a number of individuals used the transcripts for assessment work. In addition, where possible, the researcher provided relevant past literature to the participants to support their

work on these programmes. Although this was an important part of establishing a positive two-way relationship between the participant and researcher, which can result in more fruitful data, the potential role it might have had in enhancing an individual's development must also be acknowledged.

### Interview process and timing

Three interviews took place over a two year period. Each participant was interviewed over three consecutive semesters of teaching (Figure 3.2). The interviews lasted between 40 and 70 minutes with the majority being about 60 minutes in duration. The follow-up interviews tended to be slightly longer as the review at the beginning was particularly valuable for exploring development since the last interview. All interviews were tape recorded using an analogue tape recorder and table microphone.

Prior to each interview the participants were sent a copy of the ATI25 (Prosser and Trigwell, 1999), which they were required to complete and bring to the interview session. Although this was later excluded from the analysis, a number of the participants explicitly referred to this being a useful tool for preparing them for the interview. The reason for this was that it encouraged them to think about aspects that the interviews focussed upon, such as: what they were trying to achieve in their teaching; what they saw as the purpose of particular elements of teaching, for example assessment; and things that they did while teaching and why they did them. For the two follow-up interviews the participants also received a copy of the transcript to remind them of particular topics explored in the previous interview and their responses to these questions. This process also acted as one of the quality criteria within the method to ensure trustworthiness through checking the raw data with the original source (Bassegy, 1999). The interviewees then had the opportunity to confirm that the transcript was an accurate record and that the responses they had provided genuinely reflected their thoughts and experiences.

	2005		2006		2007
	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
<b>Interview 1</b>	Feb – May (14)		March (1)		
<b>Interview 2</b>		Nov –Feb (12)		Nov (1)	
<b>Interview 3</b>				Nov (10)	May (1)

Figure 3.2 Interview timings over the two-year period

Alongside these strategies to prepare the teachers, there were a number of tactics that were used in order to make the participants as comfortable as possible in the interview situation, and so contribute to the generation of data that were as rich and authentic as possible. The first of these tactics was that the interviews were conducted in the participant institution and a setting with which the participants were familiar. To further consolidate this familiarity, all three interviews with each individual were conducted in the same room.

The second tactic was that at the start of the initial interview the researcher spoke about his position within higher education. This conversation allowed the participants to see that the interviewer was at a similar professional level and stage, with the intention being implicitly to suggest a non-threatening, non-judgemental approach to the interviews. Interestingly, in the interviews, a number of the younger participants described that they felt their age helped with their teaching in that they could ‘relate’ to the students and the students seemed to find them ‘approachable’. To some extent this was the relationship that the interviewer gained with the teachers who participated in the current investigation. Such a relationship would seem to be different from a number of the other studies into teachers’ conceptions, where the

interviewer tended to be a member of the academic development team (e.g. Trigwell and Prosser; Samuelowicz and Bain; Åkerlind; and McKenzie).

The final tactic used to put the participant at ease during the interview process was to conduct the interview in a style that was open and as close to everyday conversation as possible. Hitchcock and Hughes (1995) highlight interpersonal aspects of interviewing as being critical to the quality of the data. One of the ways to try and encourage this was to have an informal 'catch-up' about aspects outside of investigation prior to the tape-recorder being started. These conversations became an important and natural part of the process, particularly as the relationship developed over the course of the interviews. Another important dimension to the interpersonal skills in interviewing was to make it explicitly clear that the interviewer was listening to the interviewees' responses to questions. As in everyday life listening during conversation is particularly important for rapport and the quality of the dialogue. The researcher tried to achieve this in two ways during the interview. Firstly through the use of an open and interested body language such as: sitting upright and towards the interviewer; leaning forwards at particular points; and maintaining eye contact with the participant. A second way to show the individual that the interviewer was listening was to repeat or probe on something that they had mentioned, often early in the conversation, for example a module title or particular instance.

### Interview schedule development

Despite this attempt to make the interview an open conversation, as already outlined above, there was a need for the interview to be semi-structured in nature. This format gave some order to the conversation, which was provided by a pre-prepared interview schedule. Before the main interview questions, the researcher provided a brief introduction which acted formally to remind the participant of a number of aspects. Firstly, they were briefly told why the interview was being conducted, the broad area of the research and what the data would be used for. Secondly, it reiterated the processes that were used to ensure confidentiality and anonymity of the data. Thirdly, it was stressed that the research was non-judgemental and did not seek to evaluate personal teaching effectiveness. The participants were asked, where

possible, to try and provide examples in their answers. Finally it was checked that the participants were happy with the duration of the interview (45-60 minutes) and for it to be tape-recorded.

In the first interview there were a number of background questions that had to be asked in order to confirm how long each participant had been teaching in higher education, where they had taught and what they considered as their main subject area. In the second and third interviews they were asked if their role had changed since last time.

The design of the main interview schedule was based upon a number of principles. The first was that the interview aimed to provide data that focussed upon the main research questions of the thesis. The most logical way to achieve this was to create a schedule containing three main sections, each of which was broadly orientated to one of the three main research questions (Figure 3.3). Section 1 aimed to consider how new teachers conceived of and approached their teaching and in what ways these conceptions and approaches developed over time. Section 2 focussed upon trying to identify explicitly the major influences upon the new teachers' development. Section 3 asked the participants to consider how and to what extent their conceptions and approaches to teaching were influenced by the varying contexts within which they taught. Although the schedule created three clearly defined areas for discussion this was not easily recognisable to the participants during the conversation. Obviously there was extensive cross-over during the interview where conversation during questioning in one section supported a quite different research question. Therefore there was no discrimination between answers in the different sections during the analysis.

The second principle used in the schedule development was that it was designed in such a way as to ensure that the questions initially encouraged the participants to describe concrete experiences of real, everyday instances. For example, the type of question that aimed to achieve this was; 'Can you think back to the last session you taught and consider what the students were actually doing?' However, the later

questions in each section shifted the focus towards a broader and more abstract reflection, such as, ‘What do you think of as learning?’ Another way in which the interview was designed to avoid over-generalisation was by the creation of a number of prompts and elaboration probes for each question (Figure 3.3, in italics underneath each of the main questions). However it was rare for these to be used as in the majority of situations the respondents described instances specific to their experiences and were keen to talk about their teaching.

The third principle in the schedule design was that it contained both a consistent component (Figure 3.3) in order to identify any shift in the response to particular questioning over time, but also a flexible component so that the interviewer could respond to aspects of the previous interview. In order to do this a new question was asked at the beginning of the second and third interview, which was; ‘How has your teaching changed since we last met? Is there anything you now see differently?’ As this was a broad, conceptual question it was often followed by the prompt; ‘Last time we met the types of things you were mentioning in relation to your teaching were...’. In the event, this yielded some extremely rich data concerning how the teachers had developed and as a result a large proportion of the interview was often spent exploring this question. As a result it was important for the interviewer to prepare well for this element of the interview. In order to become familiar with the themes described in the previous interview the transcript for the relevant participant was read and re-read. Key instances that would be re-visited in order to explore development were transposed onto a bespoke interview schedule for that individual.

## INTERVIEW SCHEDULE

### SECTION 1 CONCEPTS AND APPROACHES TO TEACHING (RQ 1)

#### What is teaching?

I would like to start by asking you about your teaching. Can you think of a module you have taught recently? What do you do towards this module?

*You might find it useful to think back to a typical week. What do you see as your roles as a teacher on this module?*

So which of the things you do on this module are you good at? Which need a bit of work?

*Are you happy with these roles, are they what you want to be doing as a teacher?*

Thinking of the students you teach on this module, why are they here, what do you think they are trying to get out of Higher Education?

*How do you try and support these aims as a teacher?*

#### Approach to teaching

I want to get an idea of what it is like to be in one of your lessons. Can you talk me through a typical session?

*Why did you do it this way? Did it achieve what you were aiming to do? How did the students respond? Are there any other ways you could have done this session?*

#### Role of the students and student learning?

Can you think back to the last session you taught and consider what the students were actually doing? How do you know?

*Were they doing this for the whole session? Were they all doing the same? Was this a typical session?*

Are there any other ways you check what they are doing either in or outside of class? How do you do this?

*How do you know if they are learning what you want them to?*

What do you think of as learning?

*What is your role in this?*



### **What is good teaching?**

Can you tell me about a really positive teaching experience you have had?

*What were you doing? What did the students do? Why was it different to normal- what was so good about it? What about a really negative experience you have had with a class?*

### **Development of your teaching**

What aspects of your teaching have changed since you started teaching?

*Is there anything you are particularly conscious of or trying to improve or develop at the moment?*

### **INFLUENCES ON CONCEPTIONS AND APPROACHES (RQ 2)**

You gave a really good example earlier about a session where you ... How did you come up with this, where did it come from?

*Where do you get your ideas from about how to do a session?*

You said earlier that you would like to try and develop X **OR** What aspect of your teaching would you like to improve or develop?

*How would you go about improving or changing this? Would you go anywhere for support?*

### **SPECIFIC ASPECTS OF THE TEACHING CONTEXT (RQ 3)**

You have mainly spoken about a X type of session. Are there any other types of session you teach? How do they differ?

*Do you think it takes different things to be good at this type of session? What are the types of things you do differently?*

What types of situations cause you to change the way you teach?

*For example different groups or levels of students, subject areas, institutions. Why do you think this happens? What causes this?*

Figure 3.3 Interview schedule

Pilot interviewing was undertaken with two teachers. However, these were not included in the analysis as they had taught in higher education for over three years.

These pilot interviews allowed for revisions to the questions in the schedule and a number of questions were re-worded in order to make them less ambiguous. It also acted as a gauge for the way in which individuals interpreted the questions through the response that they provided and as a result some questions were removed and others added. In addition, these pilot interviews were also important for developing the interviewer's experience and expertise. As suggested by Miles and Huberman (1994) often reliability and validity of qualitative research is dependent upon the researcher's ability to act as an information gathering instrument. Therefore becoming relatively comfortable and automated with the interview process was critical. This allowed more time to focus upon the interpersonal skills required to develop good rapport with the participant, rather than being concerned with the mechanics of the interview process.

### Interview Transcription

It is important to acknowledge that, as a result of filtering of the interview onto audio tape and then into text, it means that the transcript only provides a partial representation of what 'actually' occurred (Mishler, 1986). Therefore great care was taken to ensure that the transcripts provided the best representation of the individual's speech as possible. The first part of this was the use of a high quality table microphone in order to try and minimise the amount of 'unclear talk' that was provided by the audio tape-recording of the interview. Despite this there were still a number of gaps in the conversation. However, the vast majority of these were filled by the researcher re-listening to the conversation or by returning to the participant to help to confirm their meaning.

The transcription itself was undertaken by an independent professional. The reason for this decision was due to the timeframe within which the transcripts were required. As already discussed, in order to undertake the subsequent interview effectively it was important for the interviewer, but also the participant, to be familiar with the main themes within the previous conversation. The most effective way to do this was through production of a transcript of the interview and therefore the only way to guarantee its availability at the appropriate time was to employ a professional. The

individual who completed the transcription had a number of conventions concerning how to represent aspects of the conversation such as pauses, laughter, sighs and incomplete sentences. In addition, it was agreed to include all aspects of the conversation including false starts, repetitions, ums and ahs.

The transcripts were then returned as 'Word' documents with page and line numbering. The next stage was for the researcher to return back to the original recordings in order to, where possible, enter any missing words. In the majority of instances these were abbreviations or language that was specific to particular subject area. Also, during this process, the transcripts were made anonymous in terms of peoples' names or names that were specific to a particular institution. This checking of the transcripts constituted the first informal stage of the data analysis process as it acted to re-familiarise the researcher with the interviews. Once the final version of the transcripts had been produced these were sent to participants in order that they could check for accuracy and also act as a prompt prior to the next interview.

## **Data analysis**

This section will consider the stages of the data analysis, which were outlined in figure 3.1. The process from the initial analysis through to the construction of a model of common themes will be described and justified. As with the majority of qualitative analysis of interview transcripts the process of identifying key findings from the data was extremely complex, iterative and non-linear. However, the longitudinal nature of the research design added an additional dimension to this, not only in terms of the extended period of time over which the analysis took place, but also because of the constant checking and re-checking both between participants and across interviews with the same participant. The following description of the data analysis attempts to provide some structure to this process by ordering the sections, as closely as is possible with an iterative process, in chronological order.

Throughout this section the criteria used to check the quality of the analysis are identified and discussed. These are embedded within the appropriate sections which describe the data analysis process. However, in order to clarify these and collate

them into one place a summary of the quality criteria used in the current investigation is provided in Table 3.4.

Due to the chronological ordering of the chapter, the first section will identify the initial stages of the data collection. The section starts by setting out how the coding sheets were used to help categorise the different ways in which the participants described teaching. Some of the limitations that were encountered in this approach are considered. This leads into the use of case studies, a complementary form of qualitative analysis, which became an important component of the main findings. The second stage of the analysis is then outlined in the next section. This second section focuses upon the emergence of key and common themes from the data, which became the second major component of the findings. Finally, how these themes supported the production of a model that aimed to illustrate the key aspects of development and provide a tentative level of generalisation is addressed. In structuring the section in this way and being explicit about the quality criteria used, the aim is to provide as transparent an overview of the data analysis process as possible.

Table 3.4. Description of the quality criteria used in the data collection and analysis

<ul style="list-style-type: none"> <li>• Checking of the data with participants through sharing transcripts and re-visiting key themes at subsequent interviews.</li> <li>• An attempt to develop a genuine relationship with the participants through the interview process which appeared to provide honest descriptions.</li> <li>• Persistent data collection from the participants over a prolonged period in order to identify the salient features</li> </ul>	<b>Data Collection</b>
<ul style="list-style-type: none"> <li>• Confirmatory analysis by cross checking participants' descriptions between the three interviews.</li> <li>• Sufficiently detailed accounts, particularly the fully developed case studies (Chapter 4), to provide confidence in the findings.</li> <li>• Checking the emerging themes against all the interviews for all of the participants. Associated revision of themes and their level as a result.</li> <li>• Iteration between different levels of analysis (i.e. coding, summaries of cases, extended case studies and fully developed cases studies) for all interviews to cross-check findings.</li> <li>• In developing the analysis, case studies and transcripts were independently scrutinised by two supervisors.</li> <li>• Prolonged engagement with the data and cases by the researcher to avoid the creation of unrepresentative or weakly grounded findings.</li> <li>• Remaining sensitive to counter incidents and exceptions within the data to ensure a thorough analysis</li> </ul>	<b>Data Analysis</b>

### Initial coding of the first interviews

As outlined in the previous chapter this study cannot be considered phenomenographic in the purest sense, nor did it set out with that intention. However as Entwistle (1997) noted, although the interviews in his work were not necessarily designed to identify conceptions they did contain themes that offered an insight into the ways in which the teachers saw their role. In addition to this, the researcher had an unavoidable awareness of the conceptions of teaching categories that had been developed from previous studies. It would not have been feasible to proceed as if in ignorance of these and therefore the existing conceptual categories acted as the first point of reference for the analysis. After reading and re-reading the transcripts from the first interviews with the participants, the conceptions of teaching that they held came through particularly strongly and therefore it appeared logical to use an existing framework for the creation of an initial coding sheet for the analysis.

The design of this coding sheet was based upon Samuelowicz and Bain's (2001) outline of the conceptual categories and associated dimensions. Through reading the transcripts in relation to the coding sheet, descriptions were assigned to particular belief dimensions and the categories they appeared to represent. Numbers were placed in the coding table (Figure 3.4) that referred to the page and line number in the transcript where a participant's descriptions matched with particular categories and dimensions. This process was completed for the first interview with fourteen teachers.

Belief dimension	Teaching / content orientation			Student / learning orientation	
	Imparting structured knowledge	Teacher-student relations / provide understanding	Student engagement / checking understanding	Negotiate student skills / develop understanding	Conceptual change / knowledge creation
Learning & outcomes				4.39-45	
Teaching role	11.8-15, 13.53-55, 14.12-22, 14.29-34	13.56-14.1, 14.1-4	2.23-28, 4.36-38, 6.20-27, 7.1-5, 11.48-56, 12.31-33, 15.9-12	2.16-20, 7.15-18, 10.29-31, 11.30-4, 12.4-13, 13.15-24	13.19-31
Nature of knowledge	7.11-14, 12.22-25,			12.26-39	
Student/existing conception		5.36-41		12.25-27	12.52-13.3
T-S interaction / student activity		3.10-13,	5.21-32, 8.51-54, 13.4-6	4.45-51, 9.30-36, 9.51-55, 10.15-19	
Interest and motivation			4.21-28, 5.24-30, 6.14-16, 9.25-29, 9.39-44		
Benefit of learning & teaching process					

Figure 3.4. Initial coding sheet from the first interview with one participant

Although this provided a sound way in which to become familiar with the data and an initial understanding of how the new teachers experienced teaching, there were several major limitations to this approach. The first and most fundamental problem was that it had limited value in identifying how the teachers developed or how this varied in different contexts. There was a concern that this might be the case after the initial analysis of the first interviews, in which it had been difficult to track development from the participants' descriptions. Based on this initial concern, the coding sheet was piloted with two second interview transcripts to check if any longitudinal development could be established. It became clear that showing any meaningful change across the first and second interviews with these participants using this coding scheme proved impractical. Even when some shift was evident, due to the relational nature of the categories and the teachers often describing quite

different teaching situations in the two interviews, this could not necessarily be put down to development.

An additional problem with the coding was the sensitivity of the categories and also their subtlety. When development of an individual's teaching did become apparent, the lack of sensitivity of the categories made it difficult to record this change as it was often not sufficient for it to be displayed in a shift across an entire category. Similarly, the lack of subtlety of the coding table also reduced its value as a recording tool. Often participants were describing highly specific, heavily contextualised instances and the nature of the coding table meant that either there was no cell within which the description could appropriately be fitted, or if there was, the richness of the data was thereby lost.

The final problem with coding the data in this way was that the conceptual categories had implicit values attached to them. This was unavoidable due to the suggestion in the literature (Trigwell and Prosser, 1999) that student-centred, learning-focussed teaching is more desirable as it is likely to result in students adopting a deep approach to learning. Consequently the analysis risked becoming too judgemental by implicitly suggesting which participants were the 'better' teachers. Such an approach was in opposition to the ethos of the interviews and investigation. Owing to these numerous limitations the use of this approach to coding did not prove particularly fruitful or appropriate and it was therefore abandoned.

### Development of case studies

The next stage of the analysis used a number of the principles of *building theories from case study research*, which was originally outlined by Eisenhardt (1989, cited in Eisenhardt, 2002). This approach was based on the concept of *discovery* (i.e. conclusions are not pre-existing and are drawn out of the data), rather than *verification* (i.e. using data to confirm existing theoretical frameworks), which was more akin to the analysis described in the sub-section above. Glaser and Strauss (1967) suggested that in order to provide an analysis that is more local, contextual and relevant a move away from verification and towards discovery is warranted.

Therefore the use of case studies appeared to offer a way forward and responded to a number of the limitations with the initial coding of the data described above. At its core Eisenhardt's approach of building theory from case study research is an inductive process of which 'grounded theory' acts as an important element (Glaser and Strauss, 1967). Glaser and Strauss state that grounded theory involves paying great attention to participants' own accounts of social and psychological events and their association with local phenomena and the social world. However, Eisenhardt stressed the importance of the interplay between the data and the researcher conceptions that have developed from the literature. In other words, the data analysis required constant movement between the data and the literature in order to support the creation of theory. There were also the new emerging themes from the analysis, which acted as a third point of reference in this theory-creation process. The way in which this was done will be discussed in more detail in the following section.

Eisenhardt (2002) describes the various ways in which a case study approach can be developed and the different forms that it can take. These variations include: the number of cases used from single to multiple; the numerous levels of analysis including individual or organisational; the types of data used such as from interviews, questionnaires and observations or combinations of these; and the aim that they are trying to achieve, whether that be description, testing or generating theory. Despite these differences in approach there is one common goal of case study analysis and that is to focus on understanding the dynamics present within single settings (Eisenhardt, 2002).

Many different types of case studies have been described in the literature, for example Stenhouse (1988, cited in Bassey, 1999) identified four broad styles of case studies including: ethnographic, evaluative, educational and action research. Yin (1993) also provided a slightly different categorisation of case studies that were labelled as 'exploratory', 'explanatory' and 'descriptive'. By combining the definitions of educational and descriptive case studies from Stenhouse and Yin respectively, the aim of this stage of the analysis in the current study could be characterised as:



Provide complete description of a phenomenon within its context in order to understand educational action and develop theory through systematic and reflective documentation of evidence (Adapted from Stenhouse, cited in Bassey, 1999 and Yin 1993).

Although it is useful to define the type and nature of the case studies used, Eisenhardt suggests that it is the analysis that is at the heart of building theory from case studies and yet this is often the least well discussed part of the process. She suggests that ‘a huge chasm often separates data from conclusions’ (Eisenhardt, 2002, p17). Therefore it is the aim of the following to try and fill this chasm of the case analysis process that was undertaken in the current study.

The transcripts from the first interviews were re-read and a summary paragraph of the key aspects of the interview was produced for all participants. It was important to ensure that this summarising maintained the essence of the participants’ own accounts of their teaching and did not lose the specifics of the context. From these summaries, single-interview case notes were developed for nine of the participants using the transcripts from the first interview. On average the single-interview case notes were 2,500 words in length and were based upon a description of the teacher from the researcher’s perspective, with interview extracts from the participant to support these descriptions entwined throughout. The case notes tended to maintain a focus upon two key aspects within the interview transcripts; the participants’ understanding of teaching and their descriptions of development and the associated influences upon development. This process helped the researcher to become familiar with the interview transcripts and the participants’ descriptions of their teaching. At this stage checking between participants and between the cases and the literature was avoided as far as possible. The aim of this was in order to avoid the creation of common themes prematurely as this may have influenced how the researcher saw the dynamics of a single setting. To some extent this was in line with one of Eisenhardt’s (2002) key features of analysis, which is within-case analysis. This stage of the analysis is typically described as involving detailed case study write-ups for each site, which in this instance was one interview with a single participant. Eisenhardt suggests that these are often simply pure descriptions, yet central to

generating insight. Also they enable the researcher to cope with the volume of data early on in the analysis process where there is no apparent framework or structure for organising the information.

Due to the longitudinal nature of the methods employed, a distinctive part of the analysis was the overlap in data analysis with data collection. Often single-interview case notes were being written while the next round was being conducted. Esienhardt (2002) suggests that this is one of the most striking features of research which builds theory from case studies. More broadly, in relation to inductive processes, Glaser and Strauss (1967) also argue for joint collection, coding and analysis of data. Once the transcripts from the second interviews were produced, in the same way as for the first interview round, summary paragraphs were written for all participants. Before these summaries were then developed into more detailed single-interview case notes a process of case selection was undertaken. Sufficient analysis had taken place for all of the participants at this stage. There was initial coding and summary paragraphs from interviews one and two for all participants and detailed case notes from the first interview for nine of the participants. This varied level of analysis facilitated a focussing of effort upon cases that were either representative of, or provided most variation from, the sample. Also it was important to begin to consider those cases that appeared to be most theoretically useful in that they replicated or extended existing conceptual categories (Eisenhardt, 2002). As a result detailed single-interview case notes from the second interview were only produced for four out of the nine participants in the first round. This 'progressive focussing' or 'incremental' approach to case selection (Glaser and Strauss, 1967) was continued for the third interviews where single-interview case notes were produced for three out of the four participants in the second round. The end result was three sets of single-interview case notes for three participants.

The next phase of the case analysis was that for each of the three participants a detailed case study was created that drew from the three single-interview case notes. This process was an extremely time consuming and iterative as the case notes from separate interviews for each participant had to be integrated to capture their

descriptions of teaching and their development across all three interviews. There was a need to continually revisit case notes and transcripts of separate interviews but also extensive cross referencing and checking *within* participants. Such checking became an extremely important process for identification of the participants' development, but also acted as a form of triangulation where the authentication of the teachers' descriptions across interviews could be checked.

Checks *between* participants were also made, albeit to a limited extent at this point, which acted as the beginnings of searching for cross-case patterns (Eisenhardt, 2002). These checks occurred to a far greater degree when searching for common themes and therefore will be described in more detail in the following section. Although it occurred at regular points throughout the analysis, it was critical at this stage that in developing the analysis, the case studies and transcripts were independently scrutinised by two supervisors. This acted as an important quality criterion which helped to provide both fruitful dialogue and cross checking of emerging themes and sub-themes. Such a process helped to support the trustworthiness of the data and parallels Lincoln and Guba's (1985) concept of 'peer debriefing'. More recently this has developed into the idea of having a critical friend where individuals outside of the research process provide their time to help in supporting the analysis (Bassey, 1999).

The detailed case studies for three participants across three interviews represent a key finding of the current investigation and are presented in Chapter 4. They provide rich insights into the experience of three new teachers in higher education and how they develop over a two-year period. These insights help understanding of the everyday contextual aspects of teaching and they give a flavour of the idiosyncratic experiences that is not possible in more general analysis such as the creation of categories of description.

### Emergence and analysis of common themes

This section will describe the third main stage of the data analysis process (Figure 3.1). This phase of the analysis allowed for the development of some tentative

generalisations to emerge from the case studies through searching for cross-case patterns (Eisenhardt, 2002). The various levels of the case study analysis, described above, provided the basis for identifying a number of common themes and associated sub-themes. An important premise of this stage of the analysis was to avoid drawing conclusions based on limited data and being overly influenced by the three full case studies produced. Therefore the detailed case studies produced for separate interviews with some of the participants, summaries that were produced for all interviews with all participants and the complete case studies for three participants across all three interviews were all re-visited. From this, a new coding sheet was developed (Figure 3.5), which allowed the data to be grouped into themes for each participant across all interviews. This aided the analysis process by allowing the researcher to see as much of the data in one place as possible and it was broadly arranged in relation to the research question (Miles and Huberman, 1994). Being able to log similar themes across all three interviews provided a critical breakthrough in terms of identification of development.

<i>[Participant's Code]</i>	<b>Interview 1</b>	<b>Interview 2</b>	<b>Interview 3</b>
<b>Summary</b>			
<b>Way of thinking about teaching</b>			
<b>Development:</b> <i>Experiences of interactions with students</i>			
<b>Development:</b> <i>Teacher Knowledge</i>			
<b>Development:</b> <i>Confidence</i>			
<b>Role of subject / students or institution</b>			

Figure 3.5. Early version of the coding table displaying themes and sub-themes across all three interviews

The coding sheet was subsequently used as a tool to check for cross-case patterns in the main themes. These themes included: ways of thinking about teaching, influences upon development of teaching and contextual factors acting upon teaching. At this stage, the *influences upon development of teaching* theme contained three sub-themes, which were termed *experiences of interactions with*

*students, teacher knowledge and confidence*. This stage of the analysis required all interview transcripts and case studies for all individuals to be revisited, with the coding sheets allowing for the pooling of extracts from the transcripts that helped illustrate particular themes and create or revise their associated sub-themes. As a result a number of different versions of the coding sheet were produced. Although the themes remained largely the same, new sub-themes were created and, in places, their classifications were revised in order to better represent the entire sample. Therefore all the major themes and sub-themes from the case study analysis were tested to see if they were common across cases or simply idiosyncratic experiences of a particular participant. This acted as another quality criterion in the data analysis process to check for trustworthiness of the analysis (Lincoln and Guba, 1985). A prime example of an adjustment of a key category at this point was identifying one of the three influences upon development as being at a different level to the other two. Specifically, *experiences of interactions with students* as a category was identified as a *core* influence upon development, through which the other influences appeared to operate. However before this stage of the analysis this had not been differentiated in its classification from the other influences; *knowledge* and *confidence*.

This stage of the analysis also helped the sub-themes to be formalised through more clearly defining and illustrating their nature. For example, two main sub-themes in the *ways of thinking about teaching* theme that had not been made explicit in the case study analysis were more fully developed; namely *delivery of information* and the *active involvement of students*. Additionally a new sub-theme, *peer support and training*, was created within the theme which considered the key influences upon development.

The iterative nature of this process has already been highlighted at a number of points in this chapter, however it is important to stress that there was also constant back and forth between data at a range of different levels. For example, development was assessed from both the explicit description of development from participants but also in relation to shifts in descriptions about teaching across interviews. These were then compared to provide some attempt at checking the authenticity of the analysis.

Cross reference between different levels of analysis also took place between the written case study for an individual and the coding into common themes for that same individual. This process helped to identify outliers and/or rival explanations to the main themes. Notes to highlight these instances were made on the coding sheet for that participant. This enabled a balance to be struck between the overarching themes and information on idiosyncratic experiences which provided a rich, fine grained account of the teachers' development.

After the main coding process and several subsequent iterations to revise the sub-themes, the key findings were written up and form the basis for Chapter 5. This chapter was drafted so as to include an extensive narrative to define the central themes and sub-themes, but also provide an insight into the various ways in which the sub-themes exhibited themselves in different individuals at different times. Alongside these descriptions, repeated extracts were often used to illustrate the existence of a particular category within a theme in a number of the participants. In order to make these more accessible to the reader, the extracts were 'smoothed' to remove less meaningful aspects such as false starts, noises, repetitions and other distracters from the meaning of the descriptions. In addition to the central themes, this findings chapter aimed to draw out the idiosyncratic aspects or counter incidents, using specific examples and extracts from one or two individuals identified on the coding sheets. Such a specific focus was an important aspect of the analysis as it enabled the important role of context upon how a teacher develops to be brought into the foreground.

Another key feature of the analysis to note was that, even at this stage of writing the main findings, there was further refinement of sub-themes being undertaken. For example, it became clear that a number of extracts that had been pooled into the sub-themes of *experiences of interactions with students*, *knowledge* and *confidence* contained a common element which warranted acknowledgment. As a result the concept of *gaining of experience* was brought into the foreground of the findings. However as this was so embedded within the context of its 'parent' sub-themes it was inappropriate to designate it as a sub-theme in its own right. Therefore it was

identified as a common thread, where appropriate, in the other sub-themes. To some extent this type of refinement appears to address two of the eight questions for assessing trustworthiness in case study research put forward by Bassey (1999), which were originally introduced by Lincoln and Guba (1985). The first is the idea of 'prolonged engagement' and refers to spending sufficient time at different levels of analysing a case to be immersed in its issues and avoid misleading ideas. The second concept is termed 'persistent observation' and this is about thorough searching for the salient features within the data, either to discover that they are not relevant or to gain a clear understanding of them. It is argued that this type of refinement of the themes is as a result of the level of engagement with the data and constant revisiting of the data at a variety of different levels.

During writing up of the main themes into a findings chapter it was also important to allow existing literature to become more prominent in the analysis. The broad themes and their sub-themes had emerged from the data without being overly influenced by findings reported in the previous literature. However, at some point it was important to check the appropriateness of these themes against the work of others. Eisenhardt suggested that:

An essential feature of theory building is comparison of the emergent concepts, theory or hypotheses with the extant literature. This involves asking what is this similar to, what does it contradict, and why (Eisenhardt, 2002, p24).

The aim of this checking between the past literature and the emerging findings adds a further level of confidence to the data analysis, either through presenting a conflicting theory, or findings which have similarities with previous research. By not acknowledging existing literature that conflicts with the findings then it may be assumed that this is due to incorrect analysis or an analysis that was too case dependent and failed to provide any level of generalisability (Eisenhardt, 2002). Eisenhardt (2002) also suggests that recognition of conflict between the results and existing literature forces the researcher into a more 'creative, framebreaking mode of thinking' that may provide deeper insight and show the limits of generalisability.

The final concept to address in relation to the data analysis process is generalisability; an issue that was referred to in the preceding paragraph but not fully discussed. Generalisation is a key aspect for debate in case study research and is the target of most criticism of this approach. However, Bassey (1999) deflects this limitation of case study based research by identifying different types or levels of generalisation. These include scientific, statistical and 'fuzzy' generalisations. Scientific generalisation most closely parallels research in physics where laws without exception are identified. In social science, where samples are often smaller and the number of variables larger, research often reports the chance that something will take place and therefore statistical generalisations are made. However, it is the fuzzy generalisations that appear to be most appropriate in empirical enquiry such as case study research. Bassey states that this type of generalisation suggests something *may* happen but without any reference to the probability of it occurring. The principle of *fuzzy generalisation* was the aim of the final level of the analysis, which focussed upon the creation of a model of teacher development in higher education. Due to the importance of the interrelationships between themes and the broad consistency of these themes in a relatively small sample the design of a schematic model to illustrate this was warranted. The model is presented in Chapter 6 and provides some generalisations from the main findings much more richly examined in the two preceding chapters. Eisenhardt (2002) suggests that such parsimony is the hallmark of the development of good theory from case study research.

## **Conclusion**

Two main factors influenced the methodological decisions taken in the current investigation. These included the nature of the original research questions to be answered and the methods traditionally used in research into conceptions of teaching in higher education. As a result the main considerations underpinning the research design were: that the data would be primarily collected through the use of interviews with teachers; in order to assess development, a longitudinal approach to interviewing would be used; the context of the investigation was with a relatively small sample of new teachers in a variety of higher education settings; and that there



would be a fine-grained approach to the analysis in order to consider individuals' experiences of development.

To summarise, the main form of data collected was through the use of three semi-structured interviews over a two-year period. As a result of such an approach, a trusting relationship was developed between the interviewer and participant. This relationship appeared to have a significant impact upon the candour of the descriptions and therefore the interview data may better reflect real working practices rather than espoused theories. The interview schedule was primarily designed around the main research questions of the thesis in order that the participants' responses would provide an insight into these broad areas. Typical questions used in past research investigating teachers' conceptions of teaching were considered in the design of the schedule. However, a conscious effort was made to make these far more related to everyday experiences in the first instance, rather than asking broader conceptual questions. Finally, in order to support the assessment of development after the first interviews, the schedule contained a consistent component, but also a more flexible section that allowed the specifics of the subsequent interview to be addressed. All of the interviews were audio taped for transcription later. These transcripts provided the primary form of data for subsequent analysis.

The major stages of the analysis have been described above in order to provide an insight into the process that is as transparent as possible. However, it is important to acknowledge that the true iterative nature of qualitative analysis is difficult to communicate in such a structured form as that required for a chapter and the 'creative leaps' (Bassey, 1999) made in such research are also complex to explain. Despite these difficulties what the chapter has attempted to do is highlight the key quality criteria that were in operation throughout the analysis and embed these into the descriptions of the process at the appropriate points.

One of the most salient aspects of the analysis was to interact with the data in a variety of ways and at a number of different levels. To recap, this included initial coding of the data using existing frameworks, summaries of interviews for

individuals, development of detailed case studies for individual interviews, production of full case studies for some of the participants across all interviews and finally identification of key themes from the case studies and transcripts.

Throughout this process constant re-visiting of the different stages of the analysis and revisions of the main themes was required. Much of this approach to the analysis mirrored the process that Eisenhardt (2002) outlined of *building theories from case study research*.

## **CHAPTER 4. FINDINGS I: CASE STUDIES**

### **ILLUSTRATING NEW TEACHERS' EXPERIENCES OF DEVELOPMENT**

#### **Introduction**

This chapter provides three case studies of new academics from three quite different subject areas: 'Alice', a Psychologist; 'Kate', a Historian; and 'Claire', a Physiotherapist. These cases are based on the analysis of verbatim transcripts of three separate interviews with each participant, which were conducted over a two year period. Of particular importance for all three cases, were instances of interactions with students. However, the way in which these instances manifested themselves upon development and how they interacted with the other influences varied considerably between the individuals. The subject area within which the participants taught also appeared as an important aspect of the teachers' descriptions in all three of the cases. For Kate this was developing the best approach to get the students to think like historians; for Alice it was coming to terms with how to teach quite contrasting disciplines within her subject area; and for Claire it was how could she get the students to behave like professional physiotherapists.

Each case begins with an overview of the way the participant spoke about her understanding of teaching and how this has developed over the course of the interviews. The sections following on from this consider the factors that were described as having a significant influence upon this development. At times there appears to be quite a good fit between the way the teachers describe teaching and some of the categories in the literature on approaches to teaching. However, these cases shed more light on these approaches in terms of the key influences upon how an individual teaches and develops as a teacher. This fine-grained analysis also allows for more idiosyncratic and subject specific issues to emerge, which provides a detailed picture of some of the challenges that new teachers face.

## **Alice: Psychology**

### **Background**

At the time of the first interview, Alice had been employed as a teaching assistant at the institution where she had studied as a student for one year and three months. During this time, her duties included research, technician duties and teaching roles within the psychology department. The main areas of the curriculum to which she contributed as a technician included seminar and workshop sessions for research methods and statistics. She also contributed to aspects of a module on 'child development'. Prior to this position Alice had no teaching experience. After graduating, Alice undertook a research project within the department for one year before being appointed to her current position. During her first year of teaching she also undertook a Postgraduate Teaching Qualification. By the time of the second interview, eight months later, Alice had completed this qualification and had been appointed as a full-time lecturer in Psychology. Alice was still teaching similar subjects but had taken over a greater proportion of the sessions on the modules to which she contributed and had greater responsibility for the organisation of these modules. The third interview was conducted a year after the second. Little had changed between these two interviews in terms of Alice's responsibilities, with the only variation being that she had taken on directorship of an additional module. She had contributed to the module in the past and therefore it was familiar to her.

### **Alice's approach to teaching and how this developed**

When Alice first came to teaching, in her role as a technician and teaching assistant, she emphatically described teaching as the organisation and sifting of information to be delivered to the students. Most of her activities revolved around giving students access to information by creating good quality resources, such as lecture notes, workbooks, workbook answers and readings. A good example of how this view of teaching translated into her practice came out in the following extracts. In the first, she broadly described the way she went about preparing and supporting students and the second was a description of a typical statistics session:

I'm very good at finding information, that's one thing I'm good at, it's really quite obsessive and worrying! I really am quite, you know if I want to find something, I won't stop until I find it. So I'm always trying to put lots of information together, and I like using WebCT as well to put these things on like journal articles and data sets and things.

I show them on the big screen exactly what you go through. They've got their workbook and it's just really to support the workbooks so if there's anything missing they can annotate it and like write their own comments on. If it's not explained in a way they like, they can write notes on the side of it and then I interpret it for them and show them right, this is the bits you need, this is the bits you ignore.

Despite this rather 'delivery of information' view of teaching, on a number of other occasions in the first interview, Alice did describe teaching experiences where she had tried more actively to involve the students through the use of small group tasks. Her descriptions provided an insight into an additional dimension of Alice's understanding of teaching. However, the intention for this approach to teaching appeared to vary considerably. The following extracts describe a particular activity that Alice used with a group where they had to mark a past dissertation using appropriate assessment criteria. These descriptions act to illustrate the broad range of intentions that lay behind the teaching strategy:

At the end of my sort of talk we had example dissertations and they had to have a go at marking these. They seemed to enjoy that. They fed back their marks and what they thought of each dissertation and what was good and what was bad so they had an idea of what a dissertation looked like, what made a good one and what made a bad one, so that session went quite well.

I gave them a sheet and it had all the sections jumbled up. This was the first task and they were in groups of four and it was just a quick five minute talk because I knew that I'd be talking for a while so I just wanted to break it up a bit.

I think it was just really confidence was the main thing. We wanted them to see it so they had all the silly questions like, 'What does it look like?' you know, 'What goes on the front cover? How do you write an acknowledgment and the actual contents pages?'

They really enjoyed that but it was a Friday afternoon so it seemed to keep them occupied for a while.

One intention that Alice seemed to have for teaching in this way was that she felt it important that the students enjoyed her sessions. Therefore it was important that the activities added interest in that they helped to 'break it up' and 'keep them occupied'. Another basis for this type of activity was Alice's desire to develop a student's

understanding of an area through engagement with the material. This engagement included peer assessment and feedback, which aimed to give them ‘an idea of what a dissertation looked like, what made a good one and what made a bad one’. A final intention that Alice held for such activities, again appeared to be related to her wanting to check the students’ understanding without them feeling exposed. She spoke about increasing their confidence and getting them to ask ‘all the silly questions’. By this, she meant questions that the students perceived to be ‘silly’ and they felt that by asking them they may have looked foolish.

Even in the first interview Alice did describe approaches which were based on the delivery of information but also those that more actively involved the students. However it appeared that the latter was something she developed since she started, whereas she seemed to have come to teaching with the former. Evidence for this is clearly apparent in the following:

I never knew how to do tasks before, now this is going to sound really silly, but you kind of get this idea that you should just stand there and talk. So I’ve started doing more tasky things now, doing observation tasks and stats tasks and things actually in class. So less of me talking, more hands on, that’s changed a lot.

It was development of approaches that more actively involved the students that Alice predominantly described trying to get to grips with in the second and third interviews. By the second interview, Alice seemed to have a more solid view of her role as a teacher. She described a ‘groundbreaking’ moment and it appeared to be as a result of her gaining a clearer image of what she was trying to achieve with the students:

I realised that it wasn’t down to me to tell them what they had to do all the time. It wasn’t my responsibility to tell them the right answer, which was a bit of a groundbreaking move, but just being able to sort of guide them to find out for themselves.

This realisation seemed to support Alice’s development as it helped to clarify her intentions for the use of strategies that more actively involved the students. In the second interview, when describing particular student activities or tasks, her phrases did appear to be much more learning focussed. For example, Alice spoke about

helping students to transfer knowledge, think about how it worked for them and learn why. This intention appeared quite different from her descriptions of tasks in the first interview where she was very much focussed on keeping them occupied and making the students feel at ease.

A second element, which related to Alice's clearer image of the intentions behind her teaching, is that in the second interview she started to speak more about the students' experiences on the programme as a whole. She appeared more alert to how what she taught fitted with the programme. In particular, this was evident in the statistics module where she was focussed on the students being able to transfer the knowledge they received to other modules where there was a need to review and analyse data. Furthermore, she also appeared to be aware of student progression as a whole and how their learning on the statistics module affected the students' development. This is clearly illustrated in the following:

We're hoping that it'll embed somehow, that they'll get to grips with it somewhere, and to a certain extent I've seen it with the third years that have come through from last year [...]. We've found that they're saying things in their dissertation meetings, 'Oh well I think I need to use this statistic', 'I think I need to do that'. Obviously a few are still struggling, but my gut feeling is that it's an improvement on the year before.

Despite these developments in her approach to teaching, a challenge that Alice described was how some subjects lent themselves to involving the students more actively than other subjects. In the second interview, Alice was particularly concerned with the design of teaching activities to suit different subject areas. She became more aware that what was effective for one subject was often not appropriate for another. Alice was teaching subjects that had quite different ways of thinking and practising within them. For example, they ranged from statistics and research methods to child development. This variation seemed to bring a challenge to Alice in terms of the continued use of small group student tasks in all aspects of her work. She felt that, as a result of the large contrast between teaching statistics and mainstream psychology modules, this was not always possible. The following extract illustrates this well:

You always feel a little bit apprehensive, sort of because stats are so dry and so boring, there's nothing really to discuss. There's nothing really to say about it, it's just the way it is, this is the button you need to press and these are the lines that you need to go across. [...] They just have to accept it, it's awful 'cause you want to promote this debate in the majority of your modules, you know, why do we do it like this, who says this, and why can't it change and things like this, and then you come with stats and you say, 'No it's just the way it is'.

Alice appeared to battle in finding a solution to teaching this particular subject. On the one hand, she described the subject of statistics as something that you need to rote learn the processes of and that someone else needs to dictate it to you, yet on the other, Alice felt that the way to increase transfer of statistical knowledge to situations outside of the module is to get the students to question why they are using a particular technique.

In another subject that she taught, Alice came across as far more upbeat about the strategies she was using and their suitability. This time, it was a session related to research methods and dissertation preparation and she described a quite different experience to the one identified above for the statistics session:

They related well to it, it was getting them to think about what research has worked well for them in the past, how they did it, how they managed their time in the past, what works well for them and what doesn't, organising themselves. So it wasn't really a heavy theoretically driven module, it was all more study skills based. We encourage that they work together within their own groups, talking about everybody else's dissertation, so that they got an idea of what everyone else was doing as well. They all sort of shared ideas and things that way, so you often heard a lot of people saying, 'Oh, yeh, that's a good idea'. They didn't shut up, but no, it was good because they got engaged with it. It's so important, because every one of them is doing it, you know, they all got involved, which was really good.

Alice provided this as an example of a good session she had had since the first interview and she appeared much more at ease with this subject and the approach she took. This greater comfort may have been due to the subject matter lending itself better to Alice's preferred approach to teaching. As demonstrated in interview one, a main area of development for her as a teacher was actively involving the students through the use of small group tasks and this came through strongly in this research methods based session. She used phrases such as 'related well to it', 'they work together', 'shared ideas', and 'every one of them is doing it'. Such phrases were in contrast to those in a statistics session where she used descriptors such as



‘apprehensive’ ‘dry’, ‘boring’, ‘nothing to discuss’, ‘button pressing’. Alice had taught both of these sessions before. They were to similar groups on the same programme at the same point in the academic year and therefore the major point of variation between the two examples was her perception of the subject being taught. This type of situation demonstrates the strong influence that the subject area had upon how she went about teaching.

In interview three, the influence of the subject upon her approach to teaching was also clearly apparent. However, there was evidence that there had been some subtle shifts in her thinking. Firstly, Alice appeared more comfortable with her perception that a particular subject demands a particular way of teaching. This comfort was well communicated in the following extract through her more confident description of the way she saw statistics being taught and her resulting redesign of aspects of the module based on this:

What I've started doing now, which is the best way to learn statistics, is you learn the rules first, question it after. Because that's the approach I'm taking to stats, right or wrong. But they've got the rules, they know how to do the statistics, they know when they're used. Once they've grasped that, then they can question the whys and the wherefores. [...]. Before, they used to be in the workbook and we'd have an open workshop, this time I changed it, so we've just got a three hour lecture.

The second shift in Alice's thinking was that, although she perceived that different subject areas required different ways of teaching, she also seemed to have more ideas of how activities and tasks could be integrated in different ways. Despite her descriptions in the extract above, she went on to describe multiple different ways that she had integrated strategies which actively involved the students. These strategies included in-class exercises, doing a test a week, questions to interpret statistics in research papers and computer-based exercises to provide instant feedback.

In Alice's descriptions of her approach to teaching, development was evident in a number of ways. Firstly, she had a greater awareness of strategies that more actively involved the students, secondly, she appreciated that there were contextual factors that could restrict the use of such strategies, and finally, she seemed to be more learning focussed in her intentions for using these strategies. In considering what

influenced these shifts in her thinking about teaching, the following extract from the second interview provides a telling insight:

It's trial and error, try and see what works I suppose. With the different subjects, what works in one doesn't necessarily work in another. [...]. Again, that's probably down to practice and confidence. Once you've done your first batch and it goes through okay, then you get a little bit more faith hopefully.

Therefore Alice's day to day teaching appears to have acted as a key influence upon her development as this allows for use of 'trial and error'. The following section will consider this in more detail and in particular identifies Alice's interactions with students as being important in the process of trial and error.

### Key instances of interactions between Alice and the students

Despite a range of interactions with students, there appeared to be one critical instance that seems to have encouraged Alice to see teaching in quite a different way. Although this was originally mentioned in interview one, she returned back to it in interview two and, by interview three, it seemed to have altered the way she went about teaching other topic areas. The particular incident that Alice described was in a session that aimed to get the students to learn about observational sampling. Within this she had designed a task where the students actually had to undertake their own observation of a clip from a 'Tom and Jerry' cartoon. Alice had taken this session on numerous previous occasions and, as a result of these previous experiences, she had adapted how she used the task. The following extract describes the evolution of this session and how the task was used. In particular it illustrates how she rearranged where the task sat within the session, which placed a quite different emphasis on the student activity. This strategy seemed to have been brought about due to her unsuccessful interactions with students in relation to this activity in the past:

We do a talk on observation. It used to be, this is what observation is, this is how you do it and then they'd watch Tom and Jerry and they had to do this observation task. And that was all very well, but they never seemed to engage with it very well. So I cut down the talking bit at the beginning and made them just watch Tom and Jerry, sort of changed the task slightly so it was more on them. It was kind of working backwards so they picked out the important bits out of this task. Before, I'd talk about time and events sampling to begin with, so I'd do them this big spiel about you know this is time sampling this is events sampling, but this time they sort of do the task and then define it themselves, so they seem to learn it a bit more, it stays. I used to talk at them and say, 'Right you go here, you do this and you read this bit.' Whereas now they just have that on paper and they work through it themselves and then when they get stuck, they ask and it seems to work better.

From this extract, the influence of interaction with the students appeared to be two fold. Firstly, the past interaction seemed to have encouraged her to review what she was doing and develop an adapted version of the session. But secondly, this new approach created different types of interaction with students and provided her with new experiences on which to reflect. Such instances seemed to give her insights into their learning of which she was previously unaware. There were suggestions within the extract that, possibly as a result of the positive experience, Alice came to see teaching slightly differently. There appeared to be a point of realisation and an expansion in how she viewed learning. In particular this came through when she explained that; 'This time they sort of do the task and then define it themselves so they seem to learn it a bit more it stays'. This extract suggests that Alice perceived the students would learn better in the subject area if they were allowed to generate their own understanding of the concepts. Further support for the proposition that this development could be attributed to interactions with students was explicitly evident in the following, when she was asked where she thought she had got this idea from:

The first time I ever did Tom and Jerry I thought, they're either going to love this or hate it. I'm going to talk and they're going to listen and then they're going to do what I say. And it was just with confidence, and with time, you realise what works. I have no idea where the idea came from, that's going to sound terrible, but it just sort of came in with the session one day. I think maybe we had a good group and they'd maybe picked up on things themselves and then fed back, and I thought, well maybe given the chance they can do it rather than me talking first.

There was also evidence of a longer term shift in Alice's understanding of teaching as a result of this incident. In interview three, she described another topic area where she successfully implemented a similar strategy in a similar way:

We did attachment theory a couple of weeks ago, and there's a well-known research method called the 'strange situation', and you have to observe the way in which a child reacts to a stranger when their mother leaves the room. And actually getting the students to do that task, before we'd even talked about the method, gave them such a great understanding of what was going on. I thought, well give them the opportunity to talk back, they can question it, they can take part and they can feel as if they're sort of actively involved in what they're learning because they've done it. Rather than being spoon fed it, they're actually doing it if you like, and I mean I have no evidence for it, it's based on gut instinct.

Whether this was used with a conscious or unconscious awareness of the 'Tom and Jerry' experience was unclear. Interestingly, at the end of this extract, Alice described the importance of 'gut instinct' for judging the effectiveness of the strategy. As result of the nature of the task, which encouraged the students to 'talk back', 'question it' and 'take part', it is likely that the interactions with students provided fuller and richer feedback upon which to base this 'gut instinct'. Again, this demonstrated the importance of instances of interactions with students for influencing reflection and therefore her development as a teacher. Although much of these interactions advocate the importance of sheer experience for development, what also emerged, in parallel within a number of these extracts, was the importance of Alice's confidence in these situations.

#### **Influence of the interrelationship between instances of interactions with students and confidence upon Alice's development**

Alice referred to confidence extensively throughout all three interviews. However, there were two important characteristics in her descriptions about confidence that require consideration. First, confidence appeared to influence significantly the way that Alice went about teaching, and second, as a result of experience and interaction with students her confidence appeared to grow. Therefore if greater confidence helped Alice to select teaching approaches that resulted in her interacting with the students, these experiences were more likely to have provided her with feedback that may have increased her confidence further. Hence exploring the snowballing nature of the interrelationship between confidence and experience provides an important insight into Alice's development as a teacher.

Alice's lack of confidence, when she first started teaching, appeared to have been one of the critical influences upon her initial approach to teaching. In the first interview, a number of her descriptions were orientated towards teaching as being about the delivery of information, yet often, Alice referred to confidence alongside this. In the following extract she described her approach to giving a lecture and this seemed to act in providing her with greater confidence going into the session:

I think it's a confidence thing you know so you don't forget anything. So you have it all on there, I think part for the students and part for you, so you don't forget it all. Once I get more confident, I'm hoping that I'll just have like one or two key words. The lecture notes I had were taken from the recommended text that I'd ordered in for the library and then they were taken off some key websites, which were put on WebCT. So theoretically, I didn't need all that information because they should be able to go back look at the links and find it from there.

The next extract provided an illuminating insight into how Alice's lack of confidence in the early stages of being a teacher to some extent made her try and avoid any instances of interactions with students:

I think you get the confidence to do them [student tasks] as well. There's something comfortable about just standing and talking, cos they can't ask you any questions because you don't give them time to. But if you did tasks and things they're a bit more enjoyable, you seem to get interaction, so that's changed.

To some extent this could have had a compounding effect. She perceived that student tasks would create a more open and less controlled situation, which would be more likely to expose her to questioning by the students. This fear over students asking questions and lack of confidence in her ability to answer them could have made her avoid this approach. However, Alice described more positive experience of introducing activities to involve the students, which in turn resulted not only in an increase in confidence, but also the enjoyment of teaching. What also came through from the extract above was a suggestion that at the heart of her confidence in interacting with students was her personal content knowledge. Alice seemed to have a fear of being asked questions that she did not know the answer to. This is hinted at above and more explicitly referred to in the following, where she was describing why she thought a particular session had gone so well:

I was very well prepared. I sat there and I thought, right, let me try and think of every possible question they can ask me and then hope for the best, because that's the bit that makes you really nervous, is that you get stuck and they'll ask you this really awkward question and you won't know the answer, that's my worse fears.

In the third interview, Alice did further allude to the relationship between confidence and interactions with students, and also her comfort with her content knowledge. On the whole she described improvement and progression of these influences upon her teaching. However, familiarity and repetition of specific instances appeared to be a bigger factor for enhancing her confidence, content knowledge and willingness to interact with students than her generic experience of being a teacher. In other words, when Alice was presented with a new subject area or group of students, she described a regression in her confidence, which often reduced the amount of interaction with students in sessions. Even though she had been teaching for nearly three years the confidence and knowledge she had developed from various experiences with students seemed to be of little consequence when faced with something new. Alice described that taking a new group made her nervous about teaching. The following extracts illustrate this and also provided an insight into how her experiences of interactions with a specific group only provided her with confidence for teaching that particular group:

If you've never taught them before you don't know how they're going to react to your teaching style if you like, because I like to do a lot of hands on exercises. I don't know this afternoon, how that's going to go down, whether people are going to hate it, or whether they're really going to enjoy it. And that sort of makes you a bit nervous as to whether that's going to work. But in terms of sort of other groups, once you've taught them once, they get a feel for you, you get a feel for them, then that makes you more confident in teaching them.

I've got the third years again next semester, and they're quite a difficult group, but I know some of them now, through dissertations, so it's a bit easier than it was when I hadn't seen them before. So I think a little bit of experience with them makes you feel more comfortable with them, but when it's a new group completely you don't know what their needs are.

In a similar way, in the next extract, Alice described how teaching a new subject area would affect her confidence due to a lack of content knowledge in that specific area. She then went on to describe how this confidence would be likely to alter the

approach and level of interaction within the sessions. This is suggested in the second extract:

I think, as you've done it once, again you sort of have an idea of the key players in the area. If I was picking up a completely new subject again, then I'd be nervous about it and unsure about, you know, where I was going, just because you dread that question where you don't know the answer.

I think the way that I teach is based on what I'm comfortable with. So I wouldn't really have a great deal of comfort, group discussions always make you a little nervous.

Over the course of the three interviews, Alice's position and level of responsibility in the department changed quite considerably and this in itself appeared to have big implications for her confidence and the nature of her interactions with students. When Alice was a technician she described a number of ad hoc, 'corridor-based' interactions with students where she was often unsure about the level of support she should give them. However, the increasing experience of interactions with students seemed to provide her with new insights into her role which in turn gave her the confidence that she was doing the right thing:

When I first started, I always found it a bit difficult knowing when you're helping them and when you're doing it for them. I think the difference is, saying, 'No, now you gotta go away, here's a reference go and read up.' Whereas before, you'd actually sit down and say, 'Yeah, well actually if you just do that, that and that, that's what it means.' So you're kind of doing it for them, whereas you get to a point where you get a little bit of confidence so you can say, 'Well no actually, I can't do it for you.' You always feel as if you're letting them down, but at the same point they've got to learn for themselves and that bit I found really hard.

Alice's change of role to a permanent, full-time lecturer appeared to change her descriptions in relation to confidence and interactions with students quite considerably. This shift in her way of describing teaching acted to further demonstrate the ebb and flow of these influences depending upon the specific context in which she found herself. She explicitly described a reduction in confidence as a result of the new position. Some of the concerns that she described in the previous extract, in terms of interacting with students, seemed to return as she had to tackle them from a different standpoint. In particular, she seemed to revisit her concern over interactions with students and the appropriateness of the level of

support she was providing. The role of instances of interactions with students and the associated variation in her confidence is well illustrated in the following:

This time round, because it's the first time I've ever supervised dissertation students before, it's always: Am I doing this the right way? Is it appropriate? Am I asking them to do the right things? [...]. Once I get over, probably the first year, I'll be happier. 'Cause it's like your confidence goes up as a techie, but I think last time I spoke to you I was a bit nervous about: Am I always doing...telling them the right things. Well that sort of went up a bit with experience, but then it's sort of gone down again, you know, 'cause the responsibility's yours again. So it's a bit like, I'm not sure whether this is right or not, but it's more of a confidence issue than anything else.

Throughout nearly all of the extracts above Alice described instances of interactions with students and confidence in parallel. Although this suggested a clear relationship between these two influences on development, the direction of the relationship was less clear. Whether interactions with students supported confidence or whether confidence enhanced her willingness to engage in interactions is to some extent ambiguous.

### The influence of Alice's pedagogical knowledge and peer support and training

The last two sections have described the important role of instances of Alice's interactions with students for her confidence and development as a teacher. The role of content knowledge upon this interrelationship was also alluded to. Another important dimension to Alice's knowledge, which seemed to influence her development as a teacher, has been enhancement of her pedagogical knowledge. When Alice first came to teaching she thought that she 'should just stand there and talk'. This approach would not have resulted in a great deal of interaction with the students, although it did appear to provide her with sufficient feedback that her sessions were boring and she had 'lost them after an hour'. This realisation in itself was important in developing Alice's approach to teaching, but an expansion in her pedagogical knowledge was also required, in tandem, to provide her with an insight into other options. This enhancement of pedagogical knowledge appeared to come from training in the form of a postgraduate teaching certificate (PTC), past experiences as a student and from peer support. This knowledge made her aware of other possibilities and kick started her use of approaches to involve the students more



actively, which, in turn, resulted in a greater number of instances of student interaction. The most explicit example of this came through in the following:

I realised that it wasn't down to me to tell them what they had to do all the time, it wasn't my responsibility to tell them the right answer, which was a bit of a groundbreaking move. I think it had something to do with [PTC] actually. Just being able to sort of guide them to find out for themselves was good, so that built your confidence up in that respect.

This extract provides a flavour of how the PTC had provided her with an insight into different ways of working and suggests quite a significant, or, in her words, 'groundbreaking', shift in her view of teaching. Despite the apparent influence of the PTC in this instance, at other times, the majority of the references to the PTC were rather negative. Alice described the PTC as not providing the pedagogical knowledge she wanted. What appeared to be a more valued form of external influence was advice from colleagues, often those who used to teach her. The following extract suggested that they supported her well and encouraged her to introduce tasks into her sessions and interact with the students:

[In the PTC] they do a lot of things like whiteboard training and things like that, but that's not really what you want. You want to know that what you're doing is right, so that it builds your confidence up and sort of develop even more. I suppose you get a lot of help from talking to the other people, tapping into their experience. I remember I talk to ['Ron'] a lot, because I remember him as a student, that he was a good lecturer, so you always sort of talk to somebody older. 'I was thinking of doing this what do you think?', and they say, 'Oh yes, Okay, that's a good book don't forget that you'll be talking for a long time'. So I was like, oh yeah, tasks think of tasks, but if you get that into something like [PTC], so that you had the theory, which is all well and good you know and that's nice and everything, but sometimes you want that hand holding bit.

This aspect of input from colleagues for supporting Alice's pedagogic knowledge appeared to be something that developed over the course of the interviews. Rather than this feeling that she was 'looking up' to her colleagues, as in the extract above, Alice started to describe working with colleagues on a more equal footing:

I'm writing all my lecture notes at the moment and restructuring that slightly. What's happened is, as [John] left, so [Ben] and I picked up on child development and we sat down the other day and said, 'What do we want to change about this?'. This was the best thing I suppose, from my point of view, from changing from a techie, to a lecturer, was being able to have that input and saying, 'Right, these are the things that I'd really like to cover within lessons, so let's scrap that, don't want to do that and let's change it to this, this, this and this.'

By the second and third interviews, Alice started to describe the establishment of a strong relationship with a colleague who was also new to teaching and a participant in the current investigation. They often taught together on the same modules and this external input appeared to become important for her pedagogical knowledge development. The following extract illustrates this well and provides a real insight into how it supported her pedagogical knowledge, both in terms of how to deal with day to day issues with students, but also approaches to seminar activities:

I think we bounce off each other very well, I think part of it's because we sit next to each other in the office as well. But also in terms of having somebody else to say, 'Right this student's doing this, they've asked for an extension, what do you think?' And having that other person to lean on and to chat to is really good because you can... The seminar groups for example, she'll come up with one, we'll have a nice chat about what we're going to do and it sort of moulds it, and you get a bit of a taste of both areas.

## Summary

This case has aimed to provide an insight into the powerful influence of context upon Alice's approach to teaching and her development. The subject area, her confidence in the particular subject area and her varying role within the department were all important contextual aspects. Particularly in the early phase, the learning and teaching context appeared to have an overriding influence on whether she adopted strategies for delivering information or actively involving the students. Often, the lack of resolution for which of these strategies was the more appropriate and the challenges of using more student activities in sessions were striking. Confidence and Alice's knowledge were seen to be important factors in these decisions. However, through the use of more active strategies in her teaching, more interactions with the students occurred and this seemed to help Alice shape her intentions for using these types of strategies and develop confidence.

## **Kate: History**

### **Background**

Kate's area of expertise was early medieval continental history, although she tended to teach a much broader range within medieval history. The institution that Kate was at during interview one was her first full time teaching position. However, this was not a permanent contract. At the time of the first interview she had been teaching for six months and was undertaking a Postgraduate Teaching Certificate. Kate did have prior experience of teaching part-time in an associate college and also another University as a doctoral student. By the second interview, Kate had moved to a permanent position in a different University. Although the University was similar in terms of its tradition there were a number of variations. These contextual differences included a smaller number of students, greater reliance upon seminar-based teaching and greater expectations in relation to course development and research. The third and final interview took place nine months after the second and at this time Kate's position was the same. However, she felt that her responsibilities within the department had been increased both as a result of 'being given' things but also taking new things on herself.

### **Kate's approach to teaching and how this developed**

Kate's approach to teaching history did not appear to change over the course of the interviews. Kate seemed to have a very clear and well considered intention for her teaching which was based upon enabling the students to think like historians. A powerful and explicit insight into this view of learning came through in Kate's descriptions in the following extract from the second interview:

They didn't just learn kind of an isolated fact but they actually learned a way of thinking and a skill, which they can then apply to other things as well. They actually managed to learn something which they make their own. They didn't just kind of learn that the Vandals conquered North Africa, but they learned something about how you explore certain social processes of conquest and how you work with sources and what kind of questions you ask. And they then applied that to a completely different course.

There was also evidence from Kate's descriptions in the other two interviews that illustrated the consistency of this approach to her teaching. Even in interview one, at which point Kate had only been teaching for six months, the emphasis was upon influencing and supporting the students' ways of thinking. In relation to this way of viewing teaching, Kate often described her role as mapping the curriculum for the students. Such a view of teaching appeared to be based not only upon empowering the students to come to their own understanding of the concepts but also to provide them with a rationale for why a particular aspect was of interest. The following extract from interview one illustrates this concept of mapping and demonstrates the concern for getting the students to think in a particular way as opposed to delivering historical 'facts', even in a lecture-based situation:

What I'm trying to give them is, in my lecture, a kind of map of what they have to be looking at and I also try and give them some of the basics, and because some of the areas are quite difficult. So I will summarise things but I, I kind of think of it as maps, I hope that with that they can find their own way I suppose.

Interview three did not seem to provide any different or additional notions of her approach to teaching history. Again, when Kate spoke about the intentions for her teaching, the types of descriptors used were; 'challenging their notions', 'high level of analysis' and 'drawing out the problems'. In a similar way to interviews one and two, Kate also described a focus upon getting the students to think like historians rather than simply a focus on the content of history, or, as Kate described it in the following extract, not just giving the students the 'stories' in history:

How are we supposed to get them past the stories if we still tell them stories. A lot of them still think that history is just out there and you just need to go and read a book about it. The whole point of doing a History degree is seeing there'll be bits of evidence and it's you who goes and selects and it's you who goes and constructs an image of the past for your own purposes.

Although Kate's intentions for her teaching appeared relatively stable she seemed to battle extensively with *how* to approach this. The strategies she used to enable the students to 'use evidence to construct their own image of past' was a particularly important aspect of her development. Her concern for developing appropriate teaching strategies was obvious in comments such as 'I think I'm failing them as I

always am because I haven't developed a way of teaching this to them and making them feel comfortable with it'. Throughout interviews the sheer volume of experimentation with and reflection upon different strategies was striking. In addition, as also reflected in her comment above, this process has been primarily based upon her developing a clearer idea of what works and does not work for the students and allowing her to better facilitate student learning. This was particularly apparent in the first interview. In order to try and achieve her aim for the students, Kate used a broad range of strategies and experimented extensively. The variation in these teaching strategies is highlighted in the extracts below. What is important to note here is, despite the range, all these approaches were student-focussed in their intention and actively involved the students in order to help them to think like historians. Either it was to get them to 'contribute', 'exchange arguments', 'see the point of it' or 'consider source evidence':

I have a little ball, which is to get them to speak to each other because they have to throw it to one to the other, which we all find very silly of course, but it kind of worked... and it actually meant that more people contributed and there was quite good things coming from them.

We had a court room two weeks ago, which worked quite well, it was Edward II supporters against the people who'd opposed him. I find that quite satisfying because...they were arguing against each other quite well and I also had a group of judges who were kind of being the neutral people, who when we had an exchange of arguments they would kind of come in and say, 'Have you considered this bit of source evidence and your methodology?'

And then we have fortnightly seminars, where everybody has to do one online contribution, like a mini essay, which is in our virtual learning environment. And everybody else then responds to it, so there is a preparation for the seminar

The reason for Kate battling to find an appropriate way of teaching came through explicitly in the following extract. It appeared to be based upon her perception of the important balance between the students understanding the ways of thinking and practising in history versus having sound content knowledge in the subject:

I have a kind of contents duty, but also just to do the skills teaching, which I think is what most of our history teaching is about because I can't teach all the contents. I just kind of teach; how do we work with this, which is where the primary sources come in.

Trying to achieve this balance created numerous questions for Kate with regard to her role as a teacher. In the first interview, Kate seemed to put this tension down to external factors not allowing for both elements to be adequately considered. Either there was insufficient time, too many students or student ability was lacking. However, by interview two, Kate seemed to acknowledge that this balance was an important consideration in her teaching and development as a teacher. Despite this acknowledgement, the issue was still very much unresolved. The following extract serves to illustrate this lack of resolution. On the one hand, Kate described how she shifted her approach away from the content and towards how she gets the students to think about the subject. But on the other hand, she considered that there was often a need to get across the important points about a certain area of history:

I mean the big shift is, for me of course, it's not just about my detailed knowledge but it's, I have to think a lot more about how [I am] teaching rather than what I teach. I think you focus too much on the content first of all and then you realise that it's not about the detailed scholarly knowledge, it's about communication in many ways. But I kind of now have to slightly confront some assumptions of mine in certain courses, thinking, it's all very nice thinking about how and all these clever ways in which you can do things, but you have your 4 seminars on this area of history; what are the important points that you want to teach them? So I'm kind of, hmm, I don't know, pendulum slightly.

Some of Kate's descriptions in interview three helped to confirm this tension between learning the content knowledge and getting the students to think like historians. The extract below reiterates this balance between supporting the students in the 'other learning experiences' and not simply focussing in on content. Although the extract suggests she was happier with this, how she dealt with it seemed to be somewhat unresolved. She described the need for her to have sufficient 'coverage' to support the assessment on the module and yet also suggested that a great deal of this is the responsibility of the student. The following description helps to illustrate Kate's tension between knowledge provision and the appropriate development of skills and understanding:

This letting go of the content, because I think this is much more important for them to have the other learning experiences. It doesn't matter if they don't all know the last tiny bit of what the implications of [the] concept of master narrative are. But I think I've designed this so that I feel happy to let that go and not focus on the contents learning so much as the just learning to discuss things. [...]. It's very hard because in history, most of the learning happens with students doing learning stuff in the library and writing essays. So I don't think I've even been about the transmission of information, but I think I'm much happier now. It's a difficult one, about you need to cover things so you can ask them exam questions, and you can't really ask them exam questions on things that you haven't discussed in class or lectured about. But I'm a bit better at letting go.

Associated with Kate getting to grips with strategies that were most appropriate in her teaching were a number of descriptions of instances of interactions with students. She used extensive experimentation with a variety of teaching strategies, which appeared to place her in new and productive situations with students. The feedback that this provided on the effectiveness of the strategies for learning, coupled with her extremely reflective approach, seemed to have been a key influence upon her development.

#### Kate's instances of interactions with students

A major function of Kate's interactions with students for her development was to provide her with an insight into the teaching strategies she had used, of which she was previously unaware. In the first interview, Kate described a situation where, after the group had written their first essay, she organised feedback slots for sixty of her students. The rationale for this was to support the students to learn how to write in history. She was adamant that the students knew what the comments she had written meant and that they knew what their strengths were and what to do in order to improve. The major function of these interactions for Kate's development was that the feedback slots; 'Completely changed my view of what was going on'. Kate did not expand upon how her view had changed, but she did go on to describe how the instances of interacting with the students had supported her teaching of formal sessions with that group, and also provided her with feedback on the quality of the seminars. This came through well in Kate's summary of her experience of the individual feedback tutorials:

That was a fantastic experience because I noticed afterwards that things were so much easier in class because I suppose they knew what they were doing more. [...]. It was my need to feel that I was actually kind of interacting with them, I also, I got lots of feedback because I asked them; 'How are you finding the seminars are they alright, is there anything you want us to do?'. And it was good for me because I got some positive feedback and they were quite sincerely looking and they said; 'Yeah you know they're really good'. And I was oh god, no body seems to be that enthusiastic in the actual seminar, so it was good for me but it...I think it was also good for them to have that feedback explained to them because of course when I probed they often hadn't understood my comments.

This incidental feedback may have spurred Kate on to seek out more similar interactions. The following description provided a more ad-hoc, one to one encounter with a student:

I've now learnt to be a bit braver and actually just ask people to stay behind and say 'Are you alright? Is everything going ok?' and had some good experiences with that. I was worried that they were completely lacking motivation and that I wasn't getting anything to include them, so I actually asked one of them to stay behind [...]. It turned out that they weren't any big problems, however there were themes that she was particularly interested in it was really good because she blossomed a bit and talked to me.

Both of these experiences with students appeared to have been about Kate building a better relationship with the students. There were some suggestions that she saw this as breaking down barriers, which helped with their engagement and interaction in subsequent formal taught sessions. What was interesting in the more informal situation was that Kate described the need for her 'to be a bit braver'. This suggested that Kate had personal barriers to interacting with students rather than it being purely avoidance on the side of the student. However, once she started the process of interaction, this appeared to provide some important moments of enlightenment.

By interview two, Kate continued to describe extensive interaction with students but started to be more aware of the role of experience in specific learning and teaching contexts. She recognised that there were numerous aspects of teaching that still remained unresolved and to some extent Kate put this down to every teaching experience being different, either in relation to topic, group or time:



I'm still learning and I still have a long way to go, every term I feel like I'm starting from scratch. 'Cause you kind of get smug because something goes well and then the next week it'll go absolutely atrociously and there you sit again, you think, Okay, clearly I don't know how to do this. Or the experience [where] you teach the same thing to two groups in a row and the first group goes wonderfully and the second group goes awfully, or the other way round. I have no idea why this kind of happens, why didn't they get it, why did they get it the first time, why didn't they get it the second time? I think I'm slightly, I am getting slightly more relaxed about this.

The power of context became apparent even further when Kate described the variation in her interaction with two different groups of students, despite them being taught at similar points in time. The experience of these interactions seemed to make her teach in quite different ways. An instance that Kate described in a session with one group was extremely negative; 'Nothing was forthcoming', 'I just kind of shut them up' and 'I was just sitting there, I was like what's the point'. These descriptions were in contrast to another group of students where Kate described the use of a mock trial for a seminar activity. The interactions she had with this group she described as; 'I had just been sitting there clearly enjoying myself', 'They had had no input from me whatsoever' and that it had 'Restored her faith in teaching'.

As a result of these quite different experiences, Kate adjusted the approach that she took with the group. With the first group, Kate's course of action was to photocopy an article for their source pack and ask them to read it. She felt this provided them with some of the fundamental information they needed and gave her a start point for next time. However, after the experience with the other group, Kate described not wanting to 'make it hers again'. In other words, she felt that they had made such a good job of the task that she did not think any further input from her could add any additional value and would just act to take the emphasis off the students' work. In this situation, she described her role as; 'I'm the guide..., this is your map...and you just go your own way but these are the sights along the way, and the ditches that you don't want to go in'. These situational variations described above demonstrate how different contexts provided quite different instances of interactions with students and the impact this had for developing an awareness of different approaches to teaching.

In interview three, Kate described instances of interactions with students as helping her to reflect on how a module has gone and make improvements for the next time it

was taught. As a result of teaching some of the same modules as the previous year, this was the first time she was in a position where she had directly comparable experiences on which to draw. In other words the prior instances of interacting with students provided her with feedback. This feedback acted to direct any changes in approach and the current interactions with students gave her an insight into the effectiveness of these developments. The following extracts illustrate the development of this process for a particular module. The first extract illustrates the prior experience on the module and information that Kate gleaned through interaction with last year's students:

It just didn't work because there were forty [students], which meant that we had to get through forty presentations and that didn't leave any time for discussion. And a lot of the presentations weren't that good and we didn't actually get to challenging any of their notions.

The second stage to this was where Kate has redesigned an aspect of the module as a result of these past interactions with students:

So we thought, Okay, we have to give them more help and more information, actually train them up. So what we've done now is that we've maintained the format for the second term, but in the first term we are doing these thematic seminars. [...]. I've designed roles, discussion roles, so every time we have a chairperson, we have two discussion leaders who initiate things, two respondents, or however many you need, and everybody else is the discussant and then two minute takers.

The final stage to this developmental process was that as a result of interaction with the current students, Kate was provided with an insight into the effectiveness of her new strategy. The first of the following extracts illustrates how interaction with one of the students in the group provided Kate with a clear insight into the impact of the strategy. The second extract demonstrates how this strategy clearly matched with Kate's intention of getting the students to think like historians:

That's working quite well. They've improved so much already, the second years, in the way they discuss things. [...]. This minute taker came up to me and he said, 'It's really interesting to see how people's minds work.' Because for the first time in a seminar he had sat down and tried to follow the discussion and you know where is it going [...]. And I was just, oh what a triumph, somebody learned something. So, and we had really positive feedback from the third years.

We're actually doing interesting things because they are old enough in a way to, you know, talking about what is history. So actually thinking about the fact that historians write opposed texts and the effect that has on how we construct cause and effect and those kinds of things. And you can kind of see in their mind suddenly like, whoa, some things you know and suddenly... They don't have the opportunity otherwise to talk about these things.

In addition to these predominantly positive interactions with students described above, Kate also seemed to have some quite negative interactions with students. However, these appeared to have been just as influential upon her development. Particularly in interview one, Kate often seemed to have instances of interactions with students that rubbed up against her existing expectations and aims as a teacher. To some extent, the origin of this disparity appeared to be based on Kate's understanding of what learning history should entail. Her aim was to engage the students in historical thinking and the use of source material, yet interaction and feedback from the students appeared to provide her with an insight into the very 'real' barriers to enacting this approach to teaching. The following extracts provide two examples that illustrate this mismatch quite clearly.

Last semester there was a lot of kind of where they came up against my expectations, it was all very jarring because I expected second years to be able to do something's that they couldn't. I actually asked, 'Do you have any idea what I'm why I keep banging on about primary sources?', and they had no idea. I expected these things and they all looked at me as if I was talking German. So I came and suddenly kind of I had to reassess what I was doing.

I was just kind of sitting there and taken aback because I had been aiming for the questions, you know; 'What is he trying to say? Why is he putting down Nero and Herod?' That was my expectation and actually it was like; 'Who's Nero and who's Herod?'. And then I readjust and that's why I feel that I'm a bit out of synch with them in this course because I'm still not understanding where they're coming from, often that's my feeling.

What started to become clear, by the time of the second interview, was that these situations may have been brought about by Kate's lack of experience and interaction with different types and levels of students. As a result of her change of jobs, she was exposed to a greater range of student groups and was therefore more able to see the students' experiences as a whole rather than focussing on individual modules. Kate described that seeing the students' development would be something that would help her a lot. Seeing this development in the students, and the negative interactions with

students described above, appeared to have helped Kate to see and come to terms with this process of transition that the students went through and this seemed to support her in reviewing her high expectations. In addition to this experience, another factor that Kate described as helping her reflect on these high expectations and assumptions regarding student understanding, was that, by the time of the second interview, she described having less things to pay attention to. Based on the experience of her first year teaching, she felt that she had fewer things to worry about, which allowed her time to be more aware of the alignment between her expectations and the academic development of the students. This situation is well illustrated in the following extract and she even described explicitly talking to the students about the process of development as learners during their time at university:

I still expect too much. I still have problems understanding where they're coming from and I don't know, maybe I'm even more aware about that this year because I'm less worried about other aspects, so I'm kind of worrying about different things in different stages. [...]. One thing that I really learned and changed this time, was that I gave all my first years a kind of spiel about coming to university and that they're here for 3 years and that they shouldn't expect themselves to be perfect from day one. They really appreciated somebody sitting down and saying, 'It's absolutely fine to feel kind of confused and scared and kind of slightly out of your depth, this is just what happens, the whole first year's here for you to develop the skills to get used to things and that's why we have you here for 3 years because it takes that long'.

This type of 'pep' talk to the students about the wider issues of history and what it is to be an undergraduate was also present in the third interview. However to some extent it seemed to have been developed even further. Not only did Kate describe it as being more explicit, but she also adopted it as a generic strategy or approach that she took to all the courses she taught:

In every course I do this year I've emphasised more about, you know, think about what you're actually doing. Partly because I mean I've been a lot more explicit in all my courses about why I'm doing the things I do and also trying to communicate a bit to them about their own learning. And it's actually thinking about, so what do you do when you do history, so that you can actually pick up, Okay this is what I'm good at, and so you can apply it to different themes as well.

Despite this, even by interview three, Kate still referred to the oscillation of the expectations that she held for the students and how this influenced her perceived success. She felt that, even with her additional experience, she went from being

appalled by a particular session to 'jumping down the corridor' with joy. As described earlier, this relates to the importance of context and she felt that this particular aspect of teaching would take a long time to get to grips with. What came through in this micro case is the importance of Kate's experiences and interactions with students for the development of her knowledge of students. These instances appeared to allow her to re-set her expectations accordingly. However, these interactions with students had far wider implications for Kate's knowledge development. As seen in some of the extracts above, interactions with students appeared to be a critical source for the enhancement of Kate's knowledge as a teacher. It is now important to consider this more specifically in terms of the type of knowledge developed and the influence this has had upon her development.

### Kate's reflections and pedagogical content knowledge development

The development of Kate's content knowledge and understanding in relation to the particular ways of thinking and practicing in the subject was minimal. This limited development appeared to be as a result of it, on the whole, being extremely well grasped and thought through during her time as an undergraduate and postgraduate student. Despite this relatively solid position, the value that Kate put on this knowledge and the role it played within her teaching was extremely interesting and needs to be briefly considered. When teaching in an area that was slightly out of her area of expertise, she described having to do the same reading as she had given the students. She did not like doing this and felt that it may have compromised the quality of the teaching. However, she did consider that, even though she was reading the same material, it was likely that she could; 'Get much more out of it because I have the skills and the practice and I know what to do with the information'. To some extent these appeared to be the skills she was trying to instil in her students. Kate was adamant about the value of her content knowledge in helping to develop these skills in the students:

I'm kind of structuring their discussion, so in a way I will have to react to what they're saying. I couldn't do it without actually knowing what's going on. It's not about knowing every detail of it, but you still need to know the coverage because I do have a responsibility of making sure that if we don't cover everything I say, 'You need to also think about this and this and this.' So I have a kind of contents duty, but also just to kind of moderate the discussion. And to do the skills teaching, which I think is what most of our history teaching is about, because I can't teach all the contents, I just kind of teach; how do we work with this, which is where the primary sources come in, so that I still need to know kind of where...do you get this from? So I need to, I need to have some knowledge in order to do the skills teaching.

Kate therefore appeared confident in her own content knowledge and clear about the role this played in her teaching. What she was more concerned about was having a better pedagogical content knowledge to allow her to communicate concepts effectively and get the students to think like historians. Therefore this type of knowledge and its development was far more prominent within the data. Although her experimentation with strategies and associated interactions with students was a major source of information for this pedagogical content knowledge development, Kate's well developed understanding of the subject and reflective abilities appeared to have been critical in converting this information into pedagogical content knowledge. In turn, this allowed her to develop a number of strategies that clearly matched with her intentions for teaching. This development in pedagogical content knowledge through her day to day experiences, alongside her good understanding of the subject and reflective abilities, was clearly visible over the course of the three interviews.

In a particular instance in the first interview Kate explicitly described the importance of experience and 'trial and error' for the development of her pedagogical content knowledge. At the time she was grappling with how to communicate to the students the importance of sources of evidence in history and how this formed the basis for criticism within the subject. Previously, in the same module, Kate described her failing to get to grips with the purpose of the introductory sessions. She had only been at the institution for three weeks prior to the start of the semester and she described the situation as; 'I was sitting there thinking I have no idea what I'm supposed to tell you'. As a result she went to a colleague who gave her a sheet with

what to tell the students on the first session which was based upon what the module was about and the assessment. Kate's reflections upon these two experiences provided her with the realisation that the purpose of this first session was much greater than this. Although she found the information her colleague provided her useful, her more recent problems with the students getting to grips with history made her see how the introductory session could be better used to lay the foundations for thinking as a historian. Kate described this and some of her concerns about this development of her pedagogical knowledge through trial and error in the following:

I had to reassess what I was doing, and on one hand, I still think my assumption was quite, it wasn't ill founded, but on the other hand I probably have to make sure at the start that I say; 'You will have to look at a lot of primary sources...because that is what historians do and we talk about how we interpret them and I will put a lot of emphasis on you knowing why you know what you think you do know'. I have to make more of my introductory sessions [...], and that's something that you only learn by trial and error and that is also something that I find quite hard to deal with because I'm worried that I'm letting my students down, as I'm...because I'm still learning what I'm doing.

This concern over knowing how to teach seemed to be apparent in both interview one and interview two. One aspect that Kate described wrestling with over the period of the two interviews was how to ask students effective questions. In interview one this was a major concern for Kate in terms of a lack of pedagogical knowledge:

One thing I really think I have to learn, yet that sometimes I just don't know how, is to ask the good questions, which aren't too leading. Because sometimes you want them to get to that point and they're not getting there and you kind of, at some point I either just give up because it's getting so farcical in a way. Because you want to ask open questions rather than really leading ones and yes so that's something I really have to work on.

This concern seemed to continue into interview two. In this instance Kate had become concerned enough about this to seek out some staff development in the area. However, to some extent, she considered this unhelpful in terms of what she needed support on:

I think one thing that I might do is rephrase the question on the sheet to kind of fit in more with what I want to get out of that seminar. I do worry about the way I question things, that's undeniable. I went to a group teaching course, because I was just; 'Oh I can't do this, I'm clearly rubbish', which went all over the same familiar ground of how do you make them talk and how do you deal with a disruptive student and it never deals with well how do you ask them questions.

Another similar issue in terms of Kate's pedagogical content knowledge development was her concern over the merits of providing students with resource packs and reading. Again, she debated and reflected upon this throughout the first two interviews and came to the conclusion that gathering information for reading was the students' responsibility and that her providing the reading was 'spoon feeding'. By the time of the third interview Kate seemed much more at ease with these types of pedagogical issues and seemed to have designed activities, which she felt allowed for the students to learn how to be historians. For example, in the teaching strategy that Kate described below, she had started to consider the provision of a resource pack less as 'spoon feeding' and more as the basis for getting the students to engage in her sessions. The session she designed appeared to be quite experimental but it was aimed at getting the students to think, follow discuss and collect evidence in ways that are vital in historical investigation:

It's interesting, because I would have called this spoon feeding two years ago or three years ago. But we basically we give them a course pack, so there is absolutely no excuse for them not to read it. I've designed roles, discussion roles, so every time we have a chairperson, we have two discussion leaders who initiate things, two respondents, and everybody else is the discussant and then two minute takers. So this minute taker, for the first time he had listened to the whole development of a discussion, tried to keep track of it the way that you do as a tutor. Because you're like; we've been there, we're going there, OK we've missed that point but I'll come back to that later, and OK I have to shut so and so up, and for the first time he was doing a similar thing.

Again, the value of experience and reflection upon this experience came through very strongly in this pedagogical content knowledge development. When considering how she had reached this position, Kate described that; 'I'm just another year more experienced and I know that this course is not going to happen unless the reading is available for all of them'.



Kate also seemed much more comfortable with her skills of questioning students and managing discussion in her seminar activities. She appeared to create strategies that helped her to better achieve her end goal. These included techniques such as identifying two key points within a seminar and asking students broader questions about the rationale for the seminar. Finally, she described better control of discussions and having the ability to; ‘haul them back and say look you know this is not actually what we’re discussing, this is a good point, this is an important point but we actually want to talk about *this*’. Again, when Kate was explicitly asked about what she thought had made her better at these aspects of teaching and developed her knowledge in these areas, she simply stated that it was ‘the passage of time’. She described the importance of experience and that learning to teach in a more abstract form would be difficult, which she suggested was one of the limitations of the postgraduate certificate in teaching. Kate felt that a stronger external influence, which supported these experiences, was her colleagues. This came out particularly well in this final extract towards the end of Kate’s third interview:

I think it’s always a mixture between experience, and then I go and talk to my colleagues about it and they say, ‘Oh yes that’s what happens, I’ve tried to do this.’ And because quite generally in our common room we complain about teaching anyway, that’s the main buck. But there’s a lot of exchange going on there, not quite framed in the way that you might want reflective practitioners to positively engage with their pedagogical discussions, I mean in a different way. But it’s always that, it’s kind of making the experience, realising that this is what’s going on at some point, and it might take me a very long time. And it might only occur because somebody says; ‘Yes but don’t you think that’s because...’. And actually I went to some staff development courses here and it was kind of, there’s only so much you can say about group teaching. I think this is because it has to be fairly close in a way, very specific, it has to be from colleagues who know what you’re talking about, who have some ideas.

There are also two other intriguing aspects of these insights from Kate. First was that her reflection was of a very informal, unstructured and often negative nature and this does not necessarily fit with the theory of reflective practice. Secondly was the mismatch between the provision of staff development and what Kate desired. What came through from her descriptions was the need for a much stronger link to the real issues she was encountering in her specific subject.

## Summary

A number of Kate's descriptions about teaching appeared to fit with the approach to teaching described as conceptual change, student-focussed. This case study of a new academic provides an insight into this category that has not been previously considered. Despite this conception being considered the most complete and complex, what came through extremely strongly from Kate was the lack of resolution that she felt on a number of levels. Firstly, although she had a very clear intention for her teaching, this did not automatically translate into a clear image of how it could be achieved. Secondly, her view of teaching encouraged her to strike a balance between developing the students' content knowledge and helping them to think like historians. Although the day to day experience of being a teacher and the interactions with students provided some relief to these problems, the idiosyncratic nature of the experiences and interactions meant that transferability was often limited. Lack of transfer meant that she often had to find a solution for each specific group or topic area being considered. Therefore, although Kate had a relatively complete and complex approach to teaching, her development in pedagogical content knowledge as a result of instances of interactions with students has been seen to be significant.

## **Claire: Physiotherapy**

### **Background**

Prior to becoming a teacher, Claire had been a practising physiotherapist for sixteen years and had also had management training and experience within the profession. At the time of the first interview, Claire was in her first teaching job and had only been in post for eight months. She had completed one full semester, teaching predominantly on modules associated with musculoskeletal aspects of physiotherapy. At the time of this first interview, Claire was also undertaking a one year teaching certificate for lecturers, which appeared quite prominent in her conversation about teaching. When interview two was conducted, eight months later, Claire was teaching on the same modules as the previous year. In addition, she had successfully completed the teaching certificate and had also been awarded a senior lecturer position. However, this did not significantly change her role or responsibilities

particularly with regards to teaching. Nearly a year later, in interview three, little further change to her role, responsibilities or modules that she taught had taken place.

### Claire's approach to teaching and how this developed

Claire explicitly described coming to lecturing with the preconceived idea that she would be 'standing on a podium and delivering her worldly knowledge'. In her first few months of teaching this was reinforced by the module she taught on and the colleagues she worked with. She described the module in terms of having a very large group of one hundred and thirty students, and the teaching being prescribed by another lecturer. By the time of the first interview, after only seven months, her preconceived approach to teaching had shifted considerably. In addition, she appeared to be acutely aware of this shift. When questioned about her role as a teacher she asked,

Do you want it to be now where I'm actually more aware because I kind of just did as I was told last semester. So my role, I perceive, is very different because I'm actually more in control of what I'm actually supposed to be doing at work.

A major shift in Claire's teaching was a move towards a greater awareness of the students. This shift was made explicit when she commented; 'The biggest thing that I've learnt is to put the focus on the student and not myself.' Not only was this a considerable shift in perspective over a short period but she was also very aware of the change. The way she continually articulated this throughout the interviews suggested that she had spent time thinking about this and working out what it meant for her practice.

The conclusion Claire appeared to come to about how this change in focus impacted upon her practice was to use approaches associated with actively involving the students in the taught sessions. In order to achieve this active engagement, a dominant strategy she used was small group teaching whereby she divided the class into multiple groups to work concurrently on a task that she assigned. Claire saw herself as a facilitator in this process, which she defined as being about organising, controlling and optimising people to communicate, discuss or do. She emphasised

how this role was something quite different from her original idea of being the person at the front, imparting knowledge through 'direct teaching'. This understanding of teaching was first described in the initial interview and this appeared as a consistent theme throughout all subsequent interviews with minimal variation or development in its nature. The following extracts provide further insight into this approach to teaching. They help to give a flavour of these strategies to involve the students more actively in sessions and illustrate what Claire means by facilitation. In addition, they also illustrate the consistency of this approach over time. The first extract is from the first interview and the second extract is from the final interview which was conducted twenty months later:

I got them to do a problem based case study and work in small groups and give them activities to do. Then I asked them to feed back to me and kind of clarified it under points on the white board, because I probably knew what their responses were going to be under different sections, or I prompted the response under sections using PowerPoint. I gave them a case study of an elderly person and let them discuss it themselves and then feedback to me under age and the consequences of age and the aging process. So I obviously kind of knew what to ask them but I made them kind of discuss it and take on board the theory themselves, but then clarified it for them.

What they had to do was they had to pick four scenarios of case studies, get into pairs and practice the assessment and differential diagnostic tests of whatever the case would have required of them. And then once they've done that I went round class and asked them to feed it back, so they come into the centre of the room and they had to present the handling skills back. And then we said what was good, what was bad, how could it be improved.

Also, what comes out from these extracts, is that the students were active but within a very controlled or teacher directed environment. The students were given a task where they had to do something with information she gave them and then they had to feedback through Claire, then she structured it under appropriate headings. Again, this approach seemed to be relatively consistent across interviews.

An aspect of her teaching that did appear to shift was the development of what she considered as the intention for this active, but directed approach. Initially, Claire's descriptions regarding the intention behind her small group teaching were minimal. The limited references to the rationale for this approach were predominantly self-focussed, for example, she described that it helped her deal with teaching more easily due to it being less 'exposing'. However, by the time of the second interview, Claire

described the use of small group teaching as she felt this provided a more comfortable environment for the students. She was particularly aware of student feelings and she often used terms such as; ‘to be non-intimidating’, ‘they never felt embarrassed’, ‘safe learning environment’ and ‘they didn’t feel thick’. A second shift in Claire’s intention for teaching was that she seemed to place a larger emphasis upon learning being about what it is to be a professional physiotherapist. This shift in emphasis was present in extracts from interview two where she described the students needing to get an idea of ‘how to behave as a professional’. She even started to communicate this explicitly to the students and almost used it as a way of justifying her approach of facilitation of small groups. The following extract illustrates this through something she said to a group of students in one of her sessions:

One of the skills as a physio[therapist] is you’ve got to learn with your hands, you’ve got to learn to feel. Once you’re qualified you won’t be there in a classroom, you’ve actually got to learn to learn on the spot with your hands, otherwise you’re gonna struggle once you’re qualified.

In parallel with this shift towards a greater focus on the students and the professional implications of her teaching, what also seemed to come to the foreground in Claire’s descriptions was the role of her teaching in relation to assessment. She started to emphasise more explicitly that, as the teacher, it was her responsibility to prepare the students for assessment. Also, she appeared to start to see the link between what the students learn, passing the assessment and becoming a physiotherapist. When asked directly what she saw her role as, she responded that it was to; ‘Make sure that the content’s appropriate to meet the learning objectives so they’ll pass their exam and also go out on placement.’ A new concept that she mentioned in relation to this was that she tried to ensure the curriculum was ‘constructively aligned’, which again hints towards her having a greater focus on the links between learning and assessment. ‘Constructive alignment’ became a much bigger focus in interview three where she described it as quite a central pillar in what she was trying to achieve in her planning and small group activities in the classroom. She commented herself that, although she mentioned constructive alignment in interview two, by interview three, she had a far better insight and awareness of it in relation to her teaching, but

also the wider implications. This expanded awareness in relation to the ‘bigger picture’ comes through well in the following extract from interview three:

What they learn they'll have to provide from a patient care point of view when they go on placement. So we should be asking them to learn things from a patient safety point of view and a clinical competency point of view, but when they go out there and they practise and then once they're qualified means they're competent, and they can't qualify unless they've passed the module. So it's a combination of making sure they understand and they're competent. But I fundamentally believe that we should be giving them the best opportunity we can to pass their exam and if we don't I think we're jeopardising people's careers.

Therefore, despite the profound shift in how Claire went about teaching in the first few months, there was little further shift in this over the course of the interviews. However, what did develop further was Claire's awareness of her wider role as a teacher and the intentional element of the approaches she described.

#### Claire's instances of interactions with students

Regardless of the initial intention behind her use of small group facilitation, the use of this strategy resulted in the majority of Claire's teaching containing high levels of interaction between her and the students. These instances of interaction themselves appeared to have profound effects upon Claire's development as a teacher.

In interview one, Claire described an instance where students were working in small groups on a problem based case study. Claire interacted extensively with the students in the session through questioning and taking feedback from groups in order to consider possible solutions to the problems. This feedback appeared to have an extremely positive effect on Claire as it reinforced to her that the approach was appropriate and it provided a realisation that what she was doing did work. The following is an extract where Claire described the feedback she had access to as a result of these interactions:

They really demonstrated that they made the connection between the theory to why we asked patients the questions that we ask them. I taught them all these kind of things that can contribute towards injury in the theory base and then they all of a sudden knew exactly why we were asking the questions to get the information out of the patient. And everyone of them said, 'Now I get it, now I get it, now I get it.' And I actually was not looking forward to the session at all, but it came out to be something I do actually think that I did quite well. And as a new teacher when you're not very confident so that was quite a nice feeling.

It is only the actual delivery of this session and the feedback that she received from the students that could have provided Claire with this insight and re-assurance that the strategy she had selected was effective for enhancing the students' learning and therefore it developed her confidence.

These types of experiences continued into interview two where Claire's interactions with students provided further new and varied challenges. Claire described a particularly context rich instance where she had to take into account the idiosyncratic nature of different student groups while using a strategy that actively involved the students. This situation appeared to force her into evolving her approach and also provide her with information about her teaching of which she would have otherwise been unaware:

There's a huge variety of student strength within the group, you always get the dominant person answering all the questions all the time and I found that quite tricky. There was one girl who just answered everything and I didn't want to dumb her down because she was so bright, but she was actually irritating the rest of the class. So from a facilitation point of view I had to really balance all the students, to make sure they all had a chance at learning and interacting.

In order to solve this particular problem that emerged out of day to day interaction with students, Claire was forced to develop a number of different strategies to help control interaction in the group, but also speak to the student in a one to one situation. There was evidence of considerable development in both Claire's knowledge and skills as a teacher due to the interaction with this group and individual. The following extract is Claire's description of how she responded to this problem and, again, it highlights the critical role of an instance of interaction with students for development:

I gave them all a number and said; 'Right you've all got to answer the question per your number', so that she only had the opportunity to answer the once, or gave them things, say 2 matchsticks, and they had to use their matchsticks when they felt that it was their opportunity to speak. [...]. I spoke to [her] afterwards and said; 'I don't want to dumb down your confidence or anything and I'm really impressed that you're learning and I think you're gonna be great, but we just need to give other students an opportunity to talk in class and I need you to work with me on that', and she was fine about it. You know, it could have gone really badly.

In interview two, interactions with students also provided more explicit feedback on their perceptions of the quality of the sessions. All Claire's descriptions about this feedback she received from students were positive, for example; 'I got brilliant feedback, they really liked it', 'The feedback from the students was it was brilliant', 'That was a big thing that I got feedback on that they never felt embarrassed to ask questions' and 'the feedback was brill, they really liked it'. It would appear sensible to propose that the amount of feedback Claire was receiving was as a result of the sheer number of occasions in which she was directly interacting with and engaging in conversations with her students. It may also be suggested that this level of interaction and therefore feedback was more likely to occur than with more didactic teaching approaches. This type of positive feedback is also likely to have enhanced Claire's confidence as a teacher. Therefore again the importance of the interaction for development of her confidence may have been critical.

By interview three, feedback Claire had gained from her interactions with students was allowing her to further refine her teaching from year to year and session to session. She described the process that she went through in developing and introducing a new strategy. Students were asked, in small groups, to 'mind map' various scenarios that may come up in practical assessment. How Claire had reached this point was interesting as both the need for change and the adapted teaching strategy appeared to come from information she had received as a result of past encounters with student groups. The following extracts demonstrate how the information from interaction with students comes through at a number of different levels. The first extract demonstrates how explicit feedback from the group, but also Claire's generic knowledge of students she developed from past teaching experiences, has helped to shape her teaching. The second extract illustrates how interactions with the group in sessions earlier in the module informed the



development of the strategy. The third extract shows how the experience of teaching a similar session to a different group the previous year may have also influenced her current practice.

The feedback was brilliant; 'Why didn't you teach it me earlier', so next time I will. I've found that the students learn reams of information about pathologies, but when you actually then ask them a question they can't refine it, and they said, 'That's a really good way of looking at it'.

It was to do with not getting any feedback earlier on in the module. So I just thought if I'm going to do this kind of teaching style where I need feedback, to say, 'Right what do you think, tell me something that comes into your head from the word passive and how that leads onto something', else they wouldn't have spoken to me.

Last year's groups were very, very vocal. So it probably would have been better to do it in smaller groups, because of that last year, because they were all talking at once and it was hard to control. So maybe I have learned from that on a sort of sub-conscious level, I don't know.

This extensive number of instances of interactions with students over time and in quite different contexts demonstrates what an important 'training ground' the classroom was for Claire. The day to day interactions with students helped her to try out, confirm and consolidate different teaching strategies. These instances provided critical information from the students in order for her to come to a clearer understanding of her role and effectiveness. In addition, the importance for confidence and knowledge, as outcomes from these interactions with students, has also been implied. Confidence and knowledge in themselves have been shown to be important in Claire's development and therefore require further exploration.

The interrelationship between confidence and knowledge and the influence upon Claire's development

A particularly important factor in how Claire came to approach teaching was that she was more comfortable and confident with her role as a facilitator. In the first interview, it was as though actively involving the students was the way in which she had come to cope with her new job as a lecturer. The extract below acts to illustrate this link between confidence and the active involvement of the students:

Taking the emphasis off me and getting them to engage in the learning has made a big difference to my confidence. [Barbara] said that; 'If you're ever feeling uncomfortable get them to do an activity and take the pressure off yourself'. I just thought that the focus was on me, I wasn't happy with that at all because I think that it's quite exposing, but the actual facilitator role I do like.

However, there were suggestions from Claire of the important role of enhanced pedagogical knowledge in coming to this way of thinking. In order for Claire to come to the realisation that this way of teaching would support her confidence, she had to firstly conceive of and plan for it and secondly deliver it. As her pre-conception of teaching was that she would be 'a typical old fashioned lecturer...stood upon the lectern', she may have had input from external sources that provided knowledge to allow for this development. A potential main source for this pedagogical knowledge development was her engagement in a postgraduate teaching certificate (PTC). Claire explicitly and repeatedly described the influence of this upon her teaching throughout all interviews. The following extract which illustrates this was taken from interview one:

I think [PTC] has made me think what my role is, investigating all the different learning styles, and really thinking about my leadership styles as a teacher and how I engage people to participate.

By interview two, the effect that this knowledge from the PTC has had upon Claire's confidence started to become apparent. This confidence appeared to not only be confined to her teaching but it also seemed to have permeated into other aspects of her job. The following extract illustrates how her better pedagogical knowledge from the PTC empowered her to experiment more, but also allowed her to feel a more valued member of the physiotherapy teaching team who had some authority in terms of pedagogy:

I think if I'm brave enough to actually change my teaching and I have to be brave enough to have that conversation as to why I think it might be appropriate, and I have done. I've tried to say [to colleagues], 'Okay I see your side of the coin, but the students will be the judge of the module and also the exams will be the judge of their learning', and the exam results are fab, the feedback's good, 'cause it's actually very [PTC] the way I teach.

Fascinatingly though, in interview three, Claire seems to be far more dismissive of the role of the PTC. The following extract demonstrates this and highlights her drawing on knowledge from her past experiences as a physiotherapist:

A lot of it's come again through management leadership training in my previous life where. It's probably all subconscious, there's obviously information there that's me think right we'll use this. But it's certainly not from [PTC]. 'Cos I did quite a bit of training before I came here. So I'm going back to less academic kind of stuff to manage behaviour, rather than thinking about the content, I'm thinking right how can I facilitate people.

This growing pedagogical knowledge, which came from a number of different sources, appeared to allow for her teaching to become more automated, particularly by the second and third interviews. Much of the instability and insecurity that came through in interview one in terms of knowing what was right and wrong seemed to be removed. In describing her development, Claire used a number of phrases which are heavily knowledge focussed such as; 'I know what's expected of me now' and 'I hadn't got a clue what I was doing when I first came. I didn't even know what the word module meant'. Again the critical interrelationship between this knowledge development and confidence was well illustrated in the following extract:

I now know where to pitch it, it's like knowing when to play with their knowledge boundaries and knowledge management. That gave me the confidence to say, 'I'm more comfortable in me being a lecturer', whereas when I started last year I actually thought it would be like teaching postgraduates, they'd be challenging me much more than they do.

What was also hinted at the end of this extract was the important role of experience for pedagogic knowledge. In this case, the experience of working with a group of students in a previous semester provided her with information regarding the level of knowledge of the students. Such experience acted to remove a number of the fears she described in interview one, which appeared to be rooted in her naivety about being a physiotherapy lecturer. In interview two, she described that; 'Last year everything was new, every day was new ...whereas I'm repeating now and that makes a big difference... I now know where to pitch it'. In returning back to the idea that Claire's teaching became more automated, this additional experience and associated development of pedagogical knowledge appeared to allow for this. In

interview two and three, she repeatedly used the term 'reflection-in-action'. She described this as a situation where, if something was not working, she could adapt and try something else. Such a type of reflection required a well developed pedagogical knowledge and confidence which allowed her to draw on a range of different strategies and deviate from her lesson plan. The following extract provides an insight into the development of this pedagogic knowledge and how this supported her 'reflection-in-action':

I think I knew what I was trying to achieve last time, now I think I'm actually achieving it, I think I'm much better at it. I'm thinking more creatively, how I can actually deliver understanding of knowledge, by doing much more kinaesthetic things rather than just auditory or just visual. I'll mix all that up much more, so I'm still facilitating it but I'm using learning styles.

In addition to development of pedagogic knowledge another type of knowledge that significantly impacted upon Claire's development was her content knowledge. In the third interview Claire described the implications of teaching a less familiar subject. In particular she recognised the relationship between content knowledge and confidence. The following extract illustrates how her confidence varied depending upon the content to be taught:

I think if I was teaching a different subject, maybe I'm getting complacent, but I'd have to think about it a lot more because I think I'd have to think about the knowledge that I've got and I wouldn't be as confident when it comes out of my mouth. I think it does make a difference to your confidence level if you know what you're talking about.

Possibly even more important was how content knowledge and confidence were factors in varying the way Claire went about her teaching. On a simplistic level, the less familiar she was with the content knowledge the more didactic, fixed and to some extent less interactive her teaching. This comes through well in the following:

On musculo-skeletal I could talk till the cows come home and I'll often divert off that because of my own experience. Whereas with a new subject I'd be much more nervous of making sure that I get the content right on each slide. I think you'd explore ideas in a different way. I'm very reluctant to deviate off something, to give a student an opportunity, to say, 'Well let's think about it from this angle', because if they come up with something and I have no idea what they're talking about, cos it's not my subject, then I'm much more rigid in the way I deliver the goods.

From Claire's description in the interviews it was difficult to separate out the development of knowledge, from the development of confidence and the influence these had upon her development as a teacher. It appeared to be a symbiotic relationship between knowledge and confidence whereby the two factors play a role in supporting each other. Increased knowledge and confidence allowed for additional experimentation and interaction with students which ultimately resulted in her developing different understanding of her role as a teacher.

### The influence of peer support upon Claire's development

Claire's descriptions regarding working with colleagues are quite extensive and present across all interviews. However, particularly in interview one and two, on the whole, these experiences were quite negative and Claire's descriptions suggested that, if anything, they hindered her development. The subject area within which she taught appeared to exacerbate the problems that she faced in teaching with colleagues. In her area, relatively large teaching teams contributed to modules and there was a perceived requirement for consistency of delivery due to a heavily prescribed curriculum set out by the professional body. This type of situation seemed to encourage and at times forced her into observing, shadowing and copying others. In interview one, Claire described quite a negative outlook upon this and made comments such as; 'The unhappiness comes when you're working with different members of the team who teach differently', 'The module leader will actually dictate how they want it taught', and 'There is an element of doing as you're told, it doesn't really make you develop your own teaching skills but I went along with it'. Although she suggested this did not allow development of her personal skills, it is likely to have exposed her to experiences that have promoted learning and reflection on her part, even if, given the choice, it was not an approach she would have used at this point. This is evident when she was talking about another similar situation:

I was shadowing someone last semester. So, because I was probably quite out of my own comfort zone, I just copied, but it worked well. Had I not seen it done before, knowing my personality, I probably would've done a keynote lecture.

In interview two, there were still tensions reported in relation to inconsistency of teaching approach and style. However, Claire seemed to be dealing with it much more positively. No longer did she give the impression that she was just following or doing as she was told. Rather, Claire described the different methods she employed in practical sessions with students. This shift indicated that she had developed sufficient confidence to oppose colleagues and this matched with part of an extract provided earlier where she described being 'brave enough to have the conversation' with colleagues. Such a change, compared to her descriptions of working with colleagues in interview one, is clearly illustrated in the following extracts:

It does go against the grain of what you would expect it to do in a laboratory, according to the subject leads, they don't really like you doing it but the students like it. The anxiety goes away that they're gonna miss something, so that's what I've done quite differently.

What's happened is when the other lecturer's taken the practical they've not used that style 'cause of time or they didn't agree with it or whatever and then the students have said, 'Why haven't you got it?', 'cause they really liked it, so it's caused a bit of conflict.

By interview three, this perception seemed to remain with regards to interaction with the majority of her colleagues. Claire described that 'team working has been hard work' and 'at times it's like pulling teeth'. However, Claire also seemed to gain an ally who she was working quite closely with. Working with a peer seemed to help Claire to share her thinking with someone else and have regular conversations about teaching. With this colleague she talked about it being very easy working with them and 'every time there's a problem we resolve it'. There was also the suggestion that she was very much supporting the colleague who is also new to teaching.

## Summary

Claire's development did appear to match with a shift from more teacher-focussed to more student-focussed approaches to teaching. However, these generic categories do not help to illustrate the complexity of the development or provide any underlying explanation for this in the way that Claire's case study has. At times, the intentions for using strategies that more actively involved the students was based on her not

wanting to feel exposed, yet at others, they were purely focussed on supporting the students in behaving like professionals. However, regardless of the intention, the day to day interactions with students, as a result of these strategies which actively involved the students, seemed to provide valuable insights and feedback which were critical for Claire's confidence and her developing towards a more student-focussed view of teaching. The foundation to this development appeared to be the varied sources that enhanced her pedagogical content knowledge as this provided her with new ideas and ways that she could engage the students to make teaching more comfortable and also help the students come to terms with the very practical nature of the subject.

These final extracts describe quite an obvious transition for Claire, particularly between her starting teaching and the second interview and they help to pull out all these varied aspects influencing her development. They highlight the importance of knowledge, confidence, staff development, experience of teaching and feedback on this teaching:

I was actually absolutely terrified last year, I just missed being a physio[therapist] I think, 'cause 15 years of being a physio[therapist] and then coming here. I used to keep saying to people, 'I might as well have gone in a law court it's such a different job...and just turned up and been a barrister for the day without any training.' I think it's a confidence issue more than anything.

I think the penny dropped over the summer and I don't know why. I think it was I finished my [PTC] and I thought, took a breath... I had time to kind of process all the new information that had been thrown at me and I just came back thinking, right, this is second year, you've got to get your act together and get on with it. It just, it clicked, the knowledge kind of clicked. I don't know whether it was 'cause I did [PTC] but I came back like a different person, the anxiety had gone and I just kind of implemented it and then just over this semester I thought, yeh it's worked and I got better at it and feel much more comfortable.

## **Conclusion**

From this fine-grained analysis of the three cases presented above, two potentially important contributions to the literature are starting to emerge. The first is the limitations of the approaches to teaching categories for explaining the way in which these new teachers went about their teaching and how they developed over the course of the interviews. The second is identification of a number of factors that appear to

have influenced teaching and development as a teacher. These will be summarised in more detail in the following paragraphs.

In terms of providing a richer insight into the approaches to teaching Kate's case study, in particular, provided an example of an individual with a conceptual change, student-focussed approach to teaching. Unlike previous literature, this explored some of the challenges a new teacher faces in getting to grips with this approach. What appeared was a picture of quite extensive development *within* this approach to teaching. In other words, the approach to teaching did not appear to change but there was still significant development that allowed Kate to become more proficient at teaching in this way. Linked to this, a factor that was apparent in the other two case studies was the interplay between the intention and strategic elements of the approach to teaching in relation to development. In the cases of Claire and Alice it appeared that there was a development in teaching strategy from delivery of information to more active involvement of the student. However, initially the intention for this shift was primarily related to either greater comfort for the teacher or to help better occupy and keep the interest of students. The greater interaction with students as a result of this change in strategy appeared to then help the teacher shape their intentions towards those that were more student-focussed. For Kate this was slightly different in that her intention appeared relatively stable and it was evolution of strategies to best fit this that appeared as the major aspect of development. Also, what became apparent was that there were a number of contextual factors that appeared to have a significant effect upon how the individuals approached their teaching on a day to day, session to session basis. Some of these factors included the topic being taught, the student group and the colleagues they were teaching or planning with.

The second key contribution to the literature that is starting to emerge is the types of influences upon Claire's, Kate's and Alice's development. In addition to a number of idiosyncratic influences a number of common themes emerged from the three cases. In particular instances of interactions with students played a critical role in the development of all three of the individuals. Interaction, regardless of its intention or



nature, appeared to provide feedback on their teaching that they had previously been unaware of. Critical instances for each case have been illustrated, for example in Alice's case study where her interactions with students during a task based on a clip from Tom and Jerry seemed to stimulate her to see teaching in quite a different way.

Two other influences, which interrelate with these experiences of interactions with students, but also each other, are teacher knowledge and confidence. For example, in the case of Claire it was demonstrated how her development of pedagogical content knowledge dictated the ideas and opportunities for interactions with students. These interactions provided greater feedback on her teaching, which in turn enhanced her confidence. In addition, it allowed her to start to match the requirements of the profession with how the students were learning the discipline. Whereas, in the case of Alice, it was the context that seemed to dictate the extent to which she interacted with the students, which impacted upon her confidence and knowledge. Alongside these influences colleagues and training also played a key role in the teachers' development.

The chapter which follows will consider these common emerging themes with regards to the development of all the new teachers in the sample. It will outline a framework that adds new dimensions to the conceptions of teaching model in order to enhance our understanding of how new teachers develop their understanding of, and approaches to, teaching in their early years as academics. These case studies have provided a platform for this framework but also allowed for the creation of a deeper level of analysis that the broader development of common themes can only touch upon.

## CHAPTER 5: Findings II. Thematic review of the influences upon new teachers' development

### Introduction

The following chapter will consider the common themes and the associated sub-themes that emerge from the analysis of the data from the eleven participants within the study (Figure 5.1). It will build upon some of the key aspects that came out of the case study analysis in Chapter 4, which specifically focussed upon 'Kate's', 'Claire's' and 'Alice's' experiences of development over the course of the interviews. One of the main aims of this thesis has been to gain a clearer picture of how new teachers might develop their pedagogical ways of thinking and practising. This started to come through in Chapter 4, but obviously, variation between individuals was a main focus at this point. In order to expand on this, the first section of this chapter provides a broader picture of the approaches that the new teachers described and how these appeared to develop across the three interviews. This section outlines two main approaches that the teachers described: the *delivery of information* and the *active involvement of students*. Within this there is also a consideration of how the context within which the teacher operated had a strong effect upon his or her approach. The next part of this first section specifically focuses upon the teachers' development of both their strategies and their intentions for teaching towards more active involvement of the students. The last part of the section describes the teachers' development in terms of how they started to balance the two approaches, rather than use of one or the other.

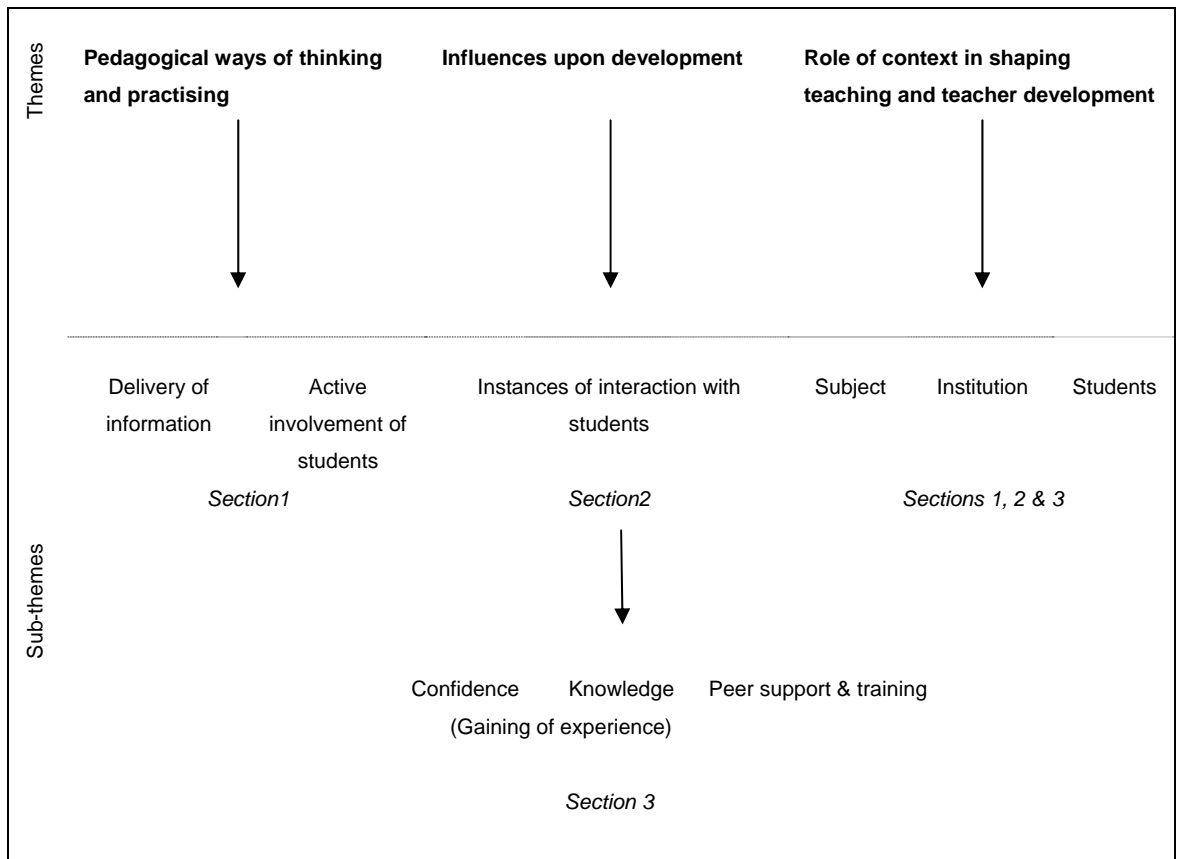


Figure 5.1 Structural map of the common themes and sub-themes to emerge from the analysis

Sections two and three identify the major influences upon the teachers' development. Again these sections continue to explore some of the influences that were introduced in the case studies. The main influences, which surfaced in Chapter 4, consist of *instances of interactions with students*, *confidence*, *teacher knowledge* and *peer support and training*. However, what emerged from the analysis when all of the participants were considered was the strong and consistent influence that *instances of interacting with students* had upon development. Therefore this has been termed the core influence and acts as the focus for the second section. In this section, the nature of these experiences will be described and variation in these experiences, between individuals and in different contexts, will be considered. The second section finishes by highlighting some of the additional challenges that the teachers described when using strategies that created more interaction with the students.

The third and final section of this chapter focuses upon the other sub-themes which have been identified as influencing the teachers' development: *knowledge*, *confidence* and *peer support and training*. Due to strong interactions of these influences with one another, but also the core influence (instances of interactions with students), it enabled a far richer analysis of development for these to be considered together. The first of these influences, teacher *knowledge*, appeared in three main forms: content knowledge, pedagogical knowledge and pedagogical content knowledge (PCK). In the first part of this third section, the relationship between content knowledge and confidence is brought to the foreground and the impact that this has upon interactive teaching is considered. This then leads to an analysis of the development of pedagogical content knowledge through simply the *gaining of experience* but also from more formal peer support and training. How these findings relate to the new teachers engaging in more interactive teaching approaches is also considered.

These sections together provide quite a full picture of how these novice teachers developed and, more importantly, the influences that acted upon this development. To illustrate the key themes to be explored within each of the sections and their associated sub-themes a map, is provided in Figure 5.1. It is important to stress that this does not attempt to illustrate any of the relationships that appear to exist between the sub-themes and simply acts as a structural diagram. However, as these themes and sub-themes are explored in the following sections, the relationships between them will start to emerge. These findings will provide the foundations upon which to put forward a model that attempts to capture the common aspects of the influences upon development from the eleven participants in the current study.

## **New teachers' approaches to teaching and the development of these approaches**

### Ways of thinking about and approaching teaching

In the majority of instances, the teachers described teaching in relation to the approaches that they used in classroom based sessions. The research of Trigwell *et al.* (1994) described approach to teaching as being composed of both teaching *strategy* and the *intention* for teaching. In the current data, the strategies that teachers took in their sessions appeared to be relatively transparent. However, identification of their intentions was not always as easy. Despite this, what will start to become clear in this section is that when the intentions for particular approaches were apparent in the teachers' descriptions, a much more illuminating picture of development emerges.

The approaches identified from the teachers' descriptions could be classified into two main domains: the *delivery of information* and the *active involvement of students*. The *delivery of information* was described predominantly in terms of the lecturer talking to the group in order to provide them with the underlying theory of a particular subject or concept. It allowed the students to make notes on what the teacher was saying but also from the PowerPoint slides, which the majority of the teachers referred to using as a tool to support their delivery. For ten out of the eleven participants in the study, this approach appeared to be the default position that they described coming into teaching with. The intentions for the use of this type of strategy varied. Often it was simply to communicate a body of information to the students, particularly when the teacher perceived that it was new to the students. In other instances the participants felt that the specific topic 'lent itself' to a delivery of information approach. Sometimes, particularly in the earlier interviews, the teachers described a feeling of greater comfort with taking an approach where they delivered the information to the students.

The *active involvement of students* approach contained a lot more variation in terms of strategy within the teachers' descriptions. Some of the descriptors associated with

this approach included: tasks, engagement, interaction, facilitation, discussions, question and answer, practical, peer presentations, seminars and debate. Despite this vast range of options in terms of active involvement of students, the common aspect was that the students were required to do something with the information in addition to listening and writing it down. Another aspect to this was that, in the majority of instances, the teachers referred to this approach as encouraging the students to interact, either with each other or the teacher themselves. Such an approach would appear to be akin to one of Kember's (1997) conceptual categories, labelled *student-teacher interaction*. However, a fuller discussion of this will take place in the next section where the nature of the development of teaching will be considered. In particular the analysis will draw on the issue of the intentional nature of student-teacher interaction which comes through as an important element in Trigwell *et al.* (1994). In the current findings, there appeared to be two quite contrasting intentions for actively involving the students, with one being to keep the students occupied and interested, and the other being more learning-focussed and aimed at helping the students develop their own understanding of the concepts. This type of distinction supports the arguments put forward by Samuelowicz and Bain (2001) in relation to it not being interaction *per se*, but the intention of the interaction which made it teacher- or student-focussed.

These two approaches, delivery of information and active involvement of students, appeared to dominate all of the new teachers' descriptions of how they went about teaching. Of particular interest was that the teachers referred to issues about how they could balance the use of these two approaches to teaching. Not one of the new teachers described a sole focus upon one or the other of these approaches. A possible explanation for this dual approach is that, although they felt a need for actively involving the students, they also wanted to maintain a good level of control over the teaching and learning activities. In the main, the descriptions from the teachers provide good evidence for this. The way in which they seemed to approach this was that the teacher provided initial information, structured the discussion, provided examples and summarised. Such a way of teaching would appear to be in line with the *student-directing* category identified by Van Driel *et al.* (1997). The

following extracts provide multiple examples from the participants to illustrate a combined approach to their teaching in which a high level of control is maintained by the teachers.

Normally [there is] an introduction to kind of the topic or an area then we'll go into the delivery, always interspersed with tasks as best as I can get them in, it might be gapped handouts or I might be that I've set them a question to discuss in groups but always try and get tasks in to engage them... The knock on effect of that is things like the peer tutoring that you can get which has worked really well in their groups, kind of feedback from tasks and we talk around it, a bit more delivery, I give another task and then summarise. (Anne, sports science, first interview)

I think I'm still as aware as ever about the different learning styles that the students will have. I still try to reach those different learning styles in methods of, conveying information to them on a concrete level. For example in statistics they get quite a mixed bag of teaching there in terms of formal stand-up lectures, informal discussion, computer based learning ... as much as we can because we've realised that they need experience of doing rather than being told what to do. (Dave, psychology, second interview)

I would start off we'll go over the knowledge that we've done in previous lessons, just a couple of questions and answers make sure they understand or remember what we've done because it always follows on. I explain what we're going to do in the lesson that we're looking at, then I would do some delivery, give them some information. Usually I'll then try and set them a small task to do whether that be to go and find some information out or whether that's just to put the information into a practical situation in their minds (Ruth, sports studies, second interview)

There is an exception to this seemingly controlled approach to interacting with the students that has already been provided in the case study of Kate in Chapter 4. She described setting up a mock trial with the students and this provided one of the few instances where the active involvement appeared to be almost entirely student-focussed. Even then, she did describe battling with how to go about the post seminar summary in that she did not want to 'make it hers again' and provide the 'authoritative opinion from the tutor at the end' as this would have meant that it became a teacher controlled activity.

An additional aspect to highlight, which operated alongside the approaches to teaching described above, was the extent to which contextual factors influenced teaching. Two critical contextual aspects that appeared to shape the particular approach a teacher took at a particular moment included the amount of *time* available and the *subject* or topic area to be taught. About a third of the new teachers described using information delivery approaches in their teaching due to the

perception of time constraints and the need to get through the content that was prescribed for the module. For the teacher quoted below, the lack of time seemed to push him towards using an information delivery approach and yet, it appears that this may not be the one he would select under different circumstances.

It was so tight (for time) that even splitting them into groups for discussion and stuff like that, it was not really viable, you know. There was so much to get through. Don't get me wrong, there were some learning centred activities but mainly it was sort of engaging them in discussion but it was sort of pretty quick-fired getting their views, getting the stuff across (Simon, sports science, first interview)

I think the concepts would definitely go in better with all these tasks if we'd more time rather than me rattling on, okay it provides a decent set of notes, but actually trying to get it where it is sinking in and they can respond, like the question and answer and the recapping at the beginning of the next lesson, there's been a struggle this year (Simon, sports science, first interview)

Although this issue of time is an important one, it was only mentioned by a small number of participants. However, there was an indication that the topic area being taught had a much wider-reaching influence as the majority of teachers reported that it had an effect on the teaching approach selected. Some areas were described as lending themselves to active involvement of the students, whereas others were considered as being better suited to the delivery of information. The following extracts, it should be noted, are from two subject areas: psychology and sports science, but within these, the topics are quite varied. The topics addressed by the teachers include statistics, skill development, physiology and clinical psychology.

I think it's quite a different set of knowledge and requires quite a different teaching style to some of the other modules that I'm involved in and I think basic statistics does require a more traditional approach, in some senses, than other modules that I teach. Mathematic symbols, Greek symbols or equations and things and to get that over to them as a package, statistics is very black and white in a sense and that there are right and wrong answers to things so whereas in other modules it might be nice to sit down and debate issues and so on, you can't really sit down and debate that if you divide this by that you get that, so it's quite different to the other modules and I am quite traditional in the way I get that knowledge over. I stand at the front with an equation on the board, I'll explain the run up to the equation...and I'll go through each of the parts of the equation (Dave, psychology, second interview)



Now the Acquisition of Skill module I think is brilliant 'cause, you know, you're looking at how do we learn. There are so many examples that everybody can contribute with and it's a bit mad when you sort of say, "right so what's the first thing you learn?" or, "how did you learn how to write?" And it's something everyone can relate to. I find like all the parts of the syllabus, there's always sort of experiences that everyone can draw on to try and, you know, support something and an understanding of the subject. (Simon, sports science, first interview)

It was really factual and it was quite scientific and it was quite heavy, and I just wanted to try and lighten it up a little bit. Now some of the content didn't lend itself towards a different approach, it was very much it's quite in depth and we are just gonna have to get the notes down. But the lesson, I was able to kind of change it towards the end..., it was stuff that they would have done prior in another module as well so it kind of linked into a different module. I knew that they'd done a little bit of that cardiovascular adaptation so I wasn't teaching them from scratch so they did have some prior knowledge, so I was thinking down that line as well that well we probably don't have to then just deliver, I can facilitate, so I can maybe give them some tasks to do just to jog their memory and just get them talking (Anne, sports science, second interview)

I actually did an hour's session on clinical psychology, so introduction to say things like schizophrenia and anxiety disorders. And that was... that was me just standing there and chatting for quite a while, and I actually said to them at the beginning, I said I'm going to talk to you for quite a little while now and I'm sorry for that, this is quite a... I don't know, it's a quite contentious topic to introduce. I felt it was important that I introduced it rather than it being an opinion based discussion because they haven't had any prior knowledge of sort of the theory and understanding behind it, so I think on occasion that's the only way to do it really, to keep hold of, keep a hold of it (Ben, psychology, third interview)

These contextual factors that appear to influence the way in which a teacher goes about their teaching, particularly with regards to the issue of subject area, echo other recent work. For example, Lindblom-Ylänne *et al.* (2006) suggested that teachers vary their approaches depending upon the subject discipline within which they teach. However, the data above extend this further by highlighting that the precise nature of the topic, even within the same broad subject area, can perhaps prompt the same teacher to teach quite differently. The extracts above describe changes in approach, depending upon the specific topic area, suggesting it is not simply a case of psychologists opting for a different approach to physiologists due to the different nature of the knowledge and teaching practices in that area. Some of the reasons given for these topic-based shifts in approach include the weighting of the factual or theoretical content of what is being taught and the teachers' perceptions of the students' prior knowledge in the area.

Although these contextual aspects provide some insights into variation in approaches to teaching, both between and within individuals, they in themselves do not represent

*development*. Using the broad approaches outlined above, the following section will provide an insight into how these approaches evolved for the eleven participants over the period of the interviews.

### Teacher development: strategies and intentions for the active involvement of students

When the teachers explicitly spoke about their development since starting teaching and over the course of the three interviews, they tended to describe a greater proportion of their teaching in relation to the *active involvement of students*. The following extracts from three different participants illustrate this shift:

The first year I ran it was the first module I'd taught and I was quite nervous and I did do a lot of just things on PowerPoint slides. And this year is much more interactive and choppy again and through all the sections, so it all seemed to work very well. (Ben, psychology, third interview).

They want to be delivered to, they want someone to stand up and deliver and not put on a show but they want to be inspired to learn. And what I've found myself doing now is that the PowerPoints have either been cut right back or I have just gone away from them and gone more to the kind of chalk and talk but with lots of interaction, a lot of probing questions, getting them to almost deliver the lesson. (Anne, sports science, third interview)

When I very first started I was...very much stand at the front, this is your information, write it down. And I've tried to get them involved in some way just because you can see them getting bored and you can see the glaze in their eyes, and to get them to actually physically move maybe just to another desk to write something down is enough to distract them somewhat. (Ruth, sports studies, third interview).

What is also well illustrated in the three extracts above is that although there was commonality in their development in terms of using strategies which more actively involved the students, there was stark contrast in the intentions for starting to use this activity. Ben indicated that this shift towards greater interactivity was related to feeling less nervous. Ann described a more learning-orientated intention for using more interaction, whereas Ruth's rationale was explicitly based upon the *maintenance of interest and attention*. Such descriptions start to indicate variation in how the individuals developed approaches which more actively involved the student. Therefore in considering development it is important to allude to shifts not only in strategy but also in the intentions behind these strategies.

Table 5.1 attempts to illustrate this variation in development between strategies and intentions for seven out of the eleven participants, where the different ways in which they described development were most distinctive. In order to do this, elements of the first and final interviews have been paraphrased to capture the broad variations in the participants' accounts. Of the seven teachers, there were two (Table 5.1: Ben and Tom) who showed obvious increase in their awareness of different strategies. These two teachers described a significant shift in their strategies towards those which more actively involving the students in sessions. For the other five teachers (Table 5.1: Ruth, Dave, Gary, Anne and Claire) there appeared to be limited change in their strategies for teaching. From the outset they had an awareness of methods both for the delivery of information and actively involving the students.

Although there are relatively few examples of development of the strategies that the teachers used over the course of the interviews, it would be inappropriate to conclude there had been no development in these five participants. When the intentions for the strategies used were discernible within the interviews, there appeared to be more subtle shifts in the approaches of all seven of the teachers' descriptions (Table 5.1: Ruth, Dave, Gary, Anne, Claire, Ben and Tom). This phenomenon relates back to some of the discussion in Chapter 2 regarding the difficulty of recognising variation in approach to teaching, as on the surface, strategy can often appear as being fairly standard or similar regardless of the underlying intention (Martin and Lueckenhausen, 2005 and Entwistle and Walker, 2000).

Table 5.1 Variation in the development of teachers' strategies and intentions: illustrations from seven distinctive cases

Teacher	First Interview	Third Interview
Ruth	<p><i>Strategy:</i> I tend to use of PowerPoint and handouts alongside some 'small tasks'. At times I ask the students to go and research things and come back to present it.</p> <p><i>Intention:</i> The aim is to put the information across and give the students the basics. I find the tasks help to keep them occupied and entertained.</p> <p>Summary: The use of slides and handouts by Ruth with some tasks integrated into this appear to be relatively similar across interviews. However there has been a shift towards a greater emphasis upon the intention to help students understand and pass the assessment.</p>	<p><i>Strategy:</i> Use of handouts and diagrams to present large amounts of information. Reading from the slides but also more discussion-based work</p> <p><i>Intention:</i> The aim is to get the students to pass the assignment. Therefore I need to check that the information I have put across they can understand.</p>
Dave	<p><i>Strategy:</i> I talk to them through things, not in an abstract way but we make up scenarios of experiments and talk about those. Then they go and do it on a very practical level by using a workbook.</p> <p><i>Intention:</i> The aim is to try and strike a chord with them. I try and make things relevant and fairly simple so they can understand the concepts.</p> <p>Summary: Dave described the use of a combination of more didactic and active types of strategy in both interviews. The intention for this was initially to enhance the students' understanding and this obviously remained, but it seemed to broaden into an awareness of the wider experience of the students.</p>	<p><i>Strategy:</i> There is a place for active learning, there is a place for chalk and talk, there's a place for all these types of learning and teaching. It is about picking the right ones for the context and subject.</p> <p><i>Intention:</i> It is important to think more globally about the student experience rather than a particular teaching session and module.</p>
Anne	<p><i>Strategy:</i> I normally have a period of delivery, which is the planned PowerPoint presentations, which is interspersed with tasks.</p> <p><i>Intention:</i> They need to get the information and the tasks make them apply this. Also there is nothing more boring than sessions with notes, notes, and more notes.</p> <p>Summary: Anne still uses a blend of presentation and interaction but the ratio seems to have shifted towards more interactive strategies. The intention has moved from avoiding boredom to a focus on challenging the students and enhancing learning.</p>	<p><i>Strategy:</i> I have cut right back on using PowerPoint. It is more chalk and talk with lots of interaction, almost getting them to deliver the lesson.</p> <p><i>Intention:</i> The students want to be inspired to learn. It is important to challenge the students; it is easy for them to just copy notes down. They learn more.</p>

Ben	<p><i>Strategy:</i> I mainly use lectures to cover the topics on the module and give the students specific readings on this. I am happy for the students to interrupt me in a lecture to ask a question. In seminar they do some sort of activity with the information I have given them.</p>	<p><i>Strategy:</i> I used more discussion-based lectures now where the students have the chance to chat to one another. My sessions are a lot more interactive and 'choppy'. I try and link the sessions, supported open learning, formative and summative assessment.</p>
	<p><i>Intention:</i> I want the students to be interested in the sessions but this has been more difficult than I thought.</p>	<p><i>Intention:</i> I am more aware of why I teach in the way I do now. It is to consolidate their learning so they really understand it but also keep the teaching interesting and accessible. Students want to do well and they need to see how it all links in otherwise they fall by the wayside a bit.</p>
<p>Summary: There appears to have been development in both strategies and intentions in Ben's approach to teaching. The intention has shifted from a focus upon maintaining interest to an emphasis upon learning. This move to more varied and 'linked' strategies may have been as a result of initially finding it difficult to achieve his intention of maintaining interest.</p>		
Gary	<p><i>Strategy:</i> The majority of sessions I work through the slides fairly descriptively with students taking notes and lights turned down. This theory is then taken into a practical setting where they have to practice technique and present to their peers.</p>	<p><i>Strategy:</i> I use didactic lectures and also get the students to research certain pathologies and present these to their peers and facilitate discussion.</p>
	<p><i>Intention:</i> There is a lot of information to get across in the lectures. The practical help to reinforce this and is less 'spoon-feeding'.</p>	<p><i>Intention:</i> The reinforcing is a critical aspect and I have started to signpost and recap for the students. The aim is to take the emphasis off volume and link knowledge and skills together from different modules.</p>
<p>Summary: Both a combination of didactic and more practical strategies were described across the interviews. The intention to reinforce is also similar in both interviews, however there seems to have been a shift in intention towards seeing the broader aspects of the students' learning across the programme</p>		

Tom	<p><i>Strategy:</i> A typical lecture would give an overview of the structure and then I would split it into two half with a break in the middle. Each lecture has an associated practical laboratory session.</p> <p><i>Intention:</i> It is my responsibility to give the students the content to make sure they know a bit about all aspects of the subject.</p> <p>Summary: There appears to have been a shift both in terms of the strategies that Tom uses and the intentions behind them. He has introduced more interaction into classes compared to the first interview when the majority of his teaching was traditional lectures. This has taken place alongside a development of intention where rather than just getting the content across it is important that the students understand the meaning.</p>	<p><i>Strategy:</i> I do less speaking and have reduced the content. There is a lot more interaction in class now. I split them into groups and ask them to do different things.</p> <p><i>Intention:</i> It is important to get the students to think for themselves. They need to be able to connect facts and see the real meaning of it all.</p>
Claire	<p><i>Strategy:</i> I give the students problem based case studies in small groups and then they feedback on these and I put it under headings on the whiteboard.</p> <p><i>Intention:</i> This is to get them to discuss it so they can take on board the theory and then I can clarify it for them.</p> <p>Summary: Claire described some very similar strategies of teaching across interviews, which were based upon facilitating discussion from small group tasks. However despite this similarity, the intentions behind this change from simply helping the students gain knowledge, to a much broader view with regards developing professionals.</p>	<p><i>Strategy:</i> In pairs the students select from a number of case studies to practice what they might do in a particular instance. They then present these handling skills practically to the rest of the group.</p> <p><i>Intention:</i> This provides a comfortable learning environment and helps them see how to behave as professionals.</p>

### Further aspects which illustrate the teachers' development

Despite the development of approaches which more actively involved the students, the teachers also described a concern for *balancing* this with delivering information to the students. There was a sense, in some of the teachers, of a tension between increasing the students' knowledge sufficiently to get them through the assessments and the use of more active approaches to teaching. One teacher in particular was battling with the effectiveness of approaches that more actively involved the student. The problem that Dave had was that he perceived quite strong conflict between several points of influence. On the one side, there was the learning and teaching culture of the institution and the institutional development programme for teachers

where he described how you are ‘strongly encouraged to adopt non-traditional methods of teaching’, or in other words approaches that actively involve the student. Yet, on the other hand, there were what he described as his ‘own personal preferences’, which appeared to have been developed from his experience of being a student, alongside the theoretical aspects of the subject, which he perceived better aligned with a delivery of information approach. A highly specific insight into this tension comes through well in the following extract from the second interview with Dave:

When I do practical things, group sessions and discussions and things within a session, it tends to run very well. I think, it tends to run fairly smoothly and there doesn’t seem to be any problems either on my part or on the students’ part..., but I do find it difficult to cope with it on a theoretical basis. So if I have a bunch of theory I need to get across that they need to start thinking about, I find it much easier to say, ‘I’m going to describe that theory to you. Here’s as many real world examples of that in action as I can think of to help you get to grips with it’, but that’s my initial reaction rather than let’s throw a problem at them, get them to brainstorm it and then pull out the theory that I already know exists. It’s..., it’s something I find almost deceptive, a deception on my part if I fake naivety to set a problem when I know what I want them to get to in the end, why don’t I just tell them? (Dave, psychology, second interview).

Another teacher also spoke about this tension between the institutional culture and her existing conception and, alongside this, alluded to an element of confusion about what she should be doing. This comes through in the extract below. Interestingly, this teacher was from the same subject area in the same institution and therefore the culture and discussions within the department must be acknowledged as a potentially powerful influence that is acting upon both of these teachers.

I’m not quite sure what the ideal is, I’ve got on one hand this very strong sort of everything must be interactive, you must not stand and talk for any amount of time, they must constantly be doing things.... And part of me thinks, ‘Yeh that’s a really good idea’ and I certainly do need to change..., and I have changed to a certain extent in that you know everything does need to be more involved and more interactive. But is that really the ideal, is that too far the other way? My feeling is that is too far the other way to a certain extent, so I’m not actually quite sure what the ideal is at the moment. (B, psychology, second interview)

Despite these areas of tension, by the time of the third interview, both of these teachers had come to a better resolution of the use of active involvement of students. This development appeared to be linked to them holding a better awareness of the role that this approach to teaching could play, but also the realisation that what was

crucial was how well the approach to teaching fitted with the particular context within which the session took place. Dave in particular was extremely explicit about this:

I don't think that one thing is better than another, full stop. I think some things are more appropriate in some circumstances and others in other circumstances, so there is a place for active learning, there's a place for chalk and talk, there's a place for all these different forms of learning and teaching. And I think you have to be sensible at picking the right ones for the context and for the subject matter and for the group and for all those issues, you have to try and pick the right one for individual sessions (Dave, psychology, third interview)

Another aspect to the participants' development, which came through in their descriptions, was a broader awareness of what they were trying to achieve as teachers. This increased awareness seemed to manifest itself in different ways, including: a greater focus on the students as learners; having a clearer aim of what their sessions were intending to achieve; and a better picture of how their module or teaching fitted in with the students' programme as a whole. The extracts below provide support for the teachers developing a greater awareness of the students' progression and development on the programme as a whole, alongside the realisation that the students were studying other modules and these should not remain in complete isolation. This relatively common shift in thinking comes through in the following four extracts, all of which refer to coming to terms with this concept of seeing the bigger picture of the students developing a grasp of the subject.

I'm more aware of as well the whole programme structure, what they get at different points of the course and what sort of things they're going on to do. Those sorts of things contribute to your thoughts about what's essential to be in there, what's not. So I think just being more aware of the whole programme, what other the other staff teach, and also being aware of what sort of things they're going on to do, what they need to know really dictates. (Tom, Exercise Physiology, third interview)

One of the things that's changed my views since becoming head of programme is about looking at a programme overall and looking at progression of student development through the years, through the levels of the programme. So I'm now becoming more aware of doing practical things with them and having those lead through the whole programmes. (Dave, psychology, third interview)



I think I have a more global view of how my modules fit into the degree structure as a whole which I didn't used to worry, so I was too concerned about delivering my own material and working at my own material. Whereas now I'm very conscious of what other modules the students are doing with other members of staff and how my material overlaps with that or complements that, and can we draw links between the modules. So I think with the modular programmes like we run here, there is that danger that students do a module and it's very self-contained, and they do the assessment and hooray we've done that one, move onto the next one. Whereas obviously with the degree programmes they are building on those materials and the modules are all interlinked, so the material builds on material from other modules. And I think that it's quite easy to forget that, both for us and for the students. (Ben, psychology, third interview)

Well what we've done this semester is we've actually not so much reinforced what we're teaching, we're beginning to reinforce what others have taught. For example, year one foundation sciences, basic anatomy and so on, we're now reinforcing their stuff in X rather than reinforcing our own stuff, so therefore it's not so much about volume, it's more about linking modules to each other. So when go into X we will reinforce what they've learned in X so it almost becomes a continuum rather than a repetitive aspect of one subject. So the whole year one to year three will just become a continuum and reinforcements of down the ages for want of a better description. (Gary, physiotherapy, third interview)

In all of the extracts above, it comes through quite clearly that the teachers are describing a shift in their way of thinking. The way in which they clarify this is through the use of descriptors such as, 'I'm more aware...', 'One thing that has changed my view...' and 'Now I'm very conscious of...'. With this shift in thinking it is easy to see how the intentions behind the active involvement of students appear to have changed. In their descriptions of student involvement, the focus is more upon supporting the development of the student and drawing together the more disparate aspects of the curriculum. The use of teaching approaches to this end comes through particularly well in the extended extract below. Here the intention behind all approaches to teaching described, including delivery of content, independent study, tutorials and statistics workshop, are all geared towards coming to an understanding of the subject area as a whole.

The first three or four weeks are sort of very much content geared towards helping them understand, it's sort of like I say sort of broad brush strokes. They have to do a memory project so I'm talking about different aspects and different perspectives on memory over those few weeks. And then they have to go away and design a memory experiment. Then we talk about the statistical aspects of that, how they need to use that to analyse that, and we have a sort of project session where I talk to them individually about their own individual projects and talk about how they can analyse the data they're thinking of collecting and those sorts of issues.

Then the sessions after that session will be talking about other aspects of the subject that don't have any bearing on their project, but I do it so that I have some time talking about those other subjects but also give them time to talk about their projects and difficulties and so on. So it's about gearing their experience as well as learning about different topics and subjects, trying to gear that towards helping them with the assessment and thinking along those assessment lines.

I mean again that's embedded in a wider context with the fact that because I teach the statistics session I've altered the timing of that module so that when I teach the statistics on the statistics module it ties in with the project session on the cognitive module. And then in a sort of wider context as well that project develops on projects I set for them in the first year, which was quite directed research work, this is a little bit more open in level two and it's hopefully heading them towards level three where they do their dissertation. I'm giving broad brush strokes about approaches to things like memory and encouraging them to go away and fill in detail. But encouraging them to go away and do a project on bits of that detail and trying to join up the other modules, but also placing that year in the context of what they did last year and what's coming next year...So I try to think, this is just about trying to think more globally about this student experience on their programme from not just what goes on in the session but what goes on in their other sessions. (Dave, psychology, third interview)

Implicit within this shift in awareness towards a more global picture of learning in the subject area, is that the teachers appear to be more attentive to the students' learning and their current levels of understanding. Such a shift is an important aspect of development that came through in the teachers' descriptions that relates to them starting to take into account the *students' prior knowledge*. At times, teachers referred to this prior knowledge in terms of knowledge that the students had gained from previous modules on the programme. Such an instance comes through clearly in one of the extracts above from Gary, where he is describing the reinforcing and building of knowledge from one module to another. Another way in which this use of students' prior knowledge comes through in the data is where the teacher gets the students to draw upon their experiences from outside of the programme. However, this seems to be extremely subject related in terms of types of topics that lend themselves to this type of approach. Some of Simon's descriptions illustrated this particularly strongly when he spoke about teaching an 'Acquisition of Skill' module. Within his approach to this module, he often referred to getting the students to draw on and contribute examples from their own experiences of childhood and sport.

This section has highlighted the approaches to teaching and development of these approaches in a group of new teachers from a range of subject areas. In the first interviews a number of the teachers described a focus upon providing information for

the students and helping them to acquire concepts. By the time of the third interviews, more of the teachers spoke about wanting actively to involve the students and to contribute to the students' understanding of the subject area as a whole. In addition, variation in development of the strategies and intentions for more active involvement of the students has also been demonstrated. However, regardless of the variation in intention between these teachers a potential advantage of using more open, interactive strategies is that there is a greater requirement for improvisation on the part of the teacher. The following section will present findings to indicate that this appears to act as an important catalyst for further developments in the future. Therefore rather than simply being a *marker* of teacher development, interactions with students as a result of taking an approach that actively involves students in a session, may be a critical *influence* upon how a new teacher develops.

### **Core influence upon teacher development: the role of instances of interactions with students**

The nature of instances of interactions with students as an influence upon teacher development

This section will consider each teacher's development primarily in relation to the influence that *instances of interactions with students* had upon his or her thinking and practice. Analysis of the data from all of the participants in the current investigation suggested that a key moment, where development in their thinking or practice was most apparent, was when they were directly interacting with the students, often as a result of them introducing an activity or task. The critical feature of this type of situation was that it seemed to provide the teachers with access to new forms of feedback on their teaching that had previously been unavailable to them. Table 5.2 provides a range of examples where the teachers described instances of interactions with students that appeared to be pivotal moments in them coming to see teaching from a new perspective.

Table 5.2. Participant's critical instances of interaction with students and the associated pre and post descriptions of teaching

Participant	Way of describing teaching pre-interaction	Critical instance of interaction with the students	Way of describing teaching post-interaction
Ben Psychology	Only the keen students come to the lecturers prepared, which makes seminar discussions with the students very difficult for me. This means I have to deliver the information as they are not at an appropriate level to do it themselves.	<i>Use of formative group task where the students had to read a specific research paper and present it in the form of a poster</i>	I think it is quite hard for the students to make the transition from school, where they are spoon fed, to here. We need to provide some structure and guidance otherwise it is quite daunting for them. If they do something more concrete with the information it works a lot better.
Ruth Sports Studies	My main role is to deliver the information to the students. Sometimes I ask them questions because they look bored and are not very keen to put ideas forward.	<i>In one particular session a number of questions were asked of the group. This prompted them to share a joke about 'the National Lottery' being the answer to all the questions in sports development.</i>	I think communication with the students and letting them be confident enough to try and suggest things is really important. I try and use tasks to check their understanding.
Anne Sports Science	The slides I produce really help the students to take down notes. I give them gapped handouts to keep them interested and it means they cannot switch off. At times I use tasks but they need a bit more work.	<i>In the room that the session was due to take place in the sun was coming through the window onto the board. This made it impossible to use PowerPoint and the session was delivered by getting the students to teach themselves.</i>	I can do things more spontaneously now. I have got a lesson structure and I still use my slides for that but it is much more interactive. I know where they should be by the end but I get them to take responsibility for their own learning.
Tom Exercise Physiology	The process I go through for my lectures is to tell the students how long I will be talking for and when they will get a break. What I give them is the bare minimum and the students need to do the reading to pass the exam.	<i>During the lectures there was no interaction and a number of the students were not listening. After advice from a colleague he stopped standing on the podium and started to deliver the lectures from the floor. Interaction was much better and the students stopped chatting and started to respond to questions.</i>	The amount of content I put into lectures is far less now. I have started putting in a lot more questions onto my slides so there is definitely a lot more interaction. I often see the students' 'ears prick up' and thinking about things. Some come and ask questions at the end.

It could be argued that these critical instances outlined in Table 5.2 act as an important *portal* for their development as teachers. The four instances of interactions with students described by the participants appear to align with some quite clear shifts in their descriptions about teaching. On the whole the overviews of how the teachers described their teaching prior to the ‘critical interaction’ were dominated by the provision of information and the use of tasks to enhance interest. However, the overviews of their descriptions after the critical moments demonstrated a much greater empathy for the students. Such empathy seems to be due to an enhanced awareness of the students’ needs and understanding of the subject, which resulted from the new insight that the critical instance of interaction provided. The suggestion that a teacher’s development contains a threshold, which a critical moment may help to move an individual through, is not dissimilar from Perry’s (1970) concept of a ‘pivotal’ fifth position in his stages of the intellectual development of students. At this fifth position Perry describes a watershed and critical traverse in progress where an individual sees things from a new perspective and they become more reflective in their practice. This stage of development seems to be akin to the experience of the four participants above and, more importantly, it appears to have been influenced directly by their interactions with students.

### Variation in instances of interactions with students

Although *instances of interactions with students* appeared as a common influence upon development, the nature of this interaction and the development that occurs appeared to vary considerably between individuals. This variation is apparent to some extent in Table 5.2, however the following will provide more in depth insights into the experiences of three of these teachers; Tom, Anne and Ben. These more detailed analyses will help to illustrate more explicitly variation in how interactions with students influenced the teachers’ development.

The first of these experiences comes from Tom who described his experience of teaching an exercise physiology session to a group of final year students. After having given his usual forty five minute lecture, he spoke about trying something different. This new strategy was to split the students into groups and encourage them

to think about how physiological principles would operate in the applied setting. The following extract provides Tom's reflections on this new approach and gives a flavour of his experience of interacting with the students:

I was a little bit unsure of how it would go and at the start I was just going around the groups and at the start they really just couldn't get into it at all until they were given some more pointers. But once they got into it and I actually could see, ok, they're actually making the links then between the lectures and trying to put them into that setting. I think that was a very worthwhile session actually because it pulled everything together from the course in the applied sports science setting. It was drawing information from them as opposed to sort of saying OK try this...so sort of drawing the answers out of them rather than sort of giving them examples was the way the session worked. And that was why it was good because... you could see that they actually, with a bit of encouragement, they actually could draw on the knowledge that they had from the course so far and ...it was at least partly reassuring that they had picked up some of the stuff so far without their revision. (Tom, exercise physiology, first interview)

Several important pieces of feedback on his teaching came through as a result of these instances of interaction with the students. First of all, the importance of the students linking the information from lectures to 'real world' situations and Tom seeing the value of this for their learning on the module was explicitly mentioned. Secondly, he described actively engaging students and drawing information from them as opposed to telling them. Finally, he also spoke about a realisation that this approach allowed him to see how much the students had learnt from the course and this provided the reassurance that his teaching was being effective. Therefore, although this more active involvement of the students could be considered as development in itself, it is also important to acknowledge the role that these instances of interaction with students played in developing Tom's thinking.

At times, the teachers described development in their teaching approach as a result of less planned, chance moments that created unexpected instances of interactions with students. A good example of this came from an interview with Anne. She explained a session where she had intended to use PowerPoint to deliver some information to the students. However, due to the set-up of the room, the equipment was not available to show the slides. The following is her description of how she dealt with this situation:

In the end I ended up just going and I almost made it almost entirely task related with just minimal input from myself and they were almost just teaching themselves. We were just looking at components of fitness so it was group work...looking at skill related components. They all had A4 bits of paper and I'd say, 'Right I want you all to design your own definition of reaction time.' or whatever it was and they'd all do their own little definitions and then they'd pin them up round the room and then each group would all go round and read each definition and I would then put up the correct definition from a book. Then we would then go back to them and highlight any similarities that everyone who'd got and like any common themes... So it was just..., it was a kind of like they had their own input 'cause they were putting down their own ideas about what they thought that component was first of all, then when I put up the correct definition they then made the link straight away about any common themes between theirs or any of the other groups. It was just the way the lessons worked, like one lad who is one of these that probably doesn't know where he's going but he even come up at the end and said, 'And now I love your lessons because it's like we're teaching ourselves.', he goes, 'It's really good.', and like that probably, that is probably my best moment..., my best lesson. (Anne, sports science, first interview).

This problem with the room prompted Anne to actively involve the students far more than she might have done otherwise. The use of a quite different approach to teaching provided an experience where there were far more opportunities for interaction with the students. In a similar way to Tom above, Anne recognised that this approach caused the students to create their own understanding and encouraged them to link different pieces of information together. Also, a student approached her with some extremely positive feedback about her teaching, which in itself was an example of an interaction with a student that appeared to be important to Anne. This type of interaction must not be overlooked as a key influence on development. It is also important to recognise, however, that it may have been as a result of the open, interactive nature of this session that the student felt able to approach Anne at the end with this feedback. Therefore again it appeared that interactions with students provided a greater chance of the teacher accessing information from students that they would otherwise have missed.

Another example where an instance of interaction with students appeared to prompt development in teaching strategy was provided by Ben, a lecturer in psychology. Something that Ben felt was particularly important for the students to do on his module was read particular research papers that were related to the subject area being taught. However, in the first interview, he continually described the problems he encountered with the students when doing this. On a number of occasions Ben had asked the students to read a paper and then tried to have discussion about the paper.

In these interactive sessions with the students, he described how the ‘Discussions had not worked as well as I’d wanted it to’ and that he was ‘Getting variable levels of response – and of course it’s always the same few students who do respond so everyone else just takes a back seat’. As a result of this experience of interacting with the students in an undesirable way, Ben tried out a new strategy with a different group of students the following year. The following extract is from the second interview where he provides an insight into how this strategy had worked:

[I’ve] tried something new with the first years where they do a poster presentation based on a paper and that worked really, really well I was very pleased with that. I don’t know whether or not if they can see something concrete from it that it works better rather than just this idea that they should have read it and come prepared to the session, that maybe is a bit vague for them, I don’t know. So yeah, I have had to change things quite a bit from that and I’m obviously running the same courses next semester as I spoke to you about in the last interview and I’ll have to really change those quite a lot as well. (Ben, psychology, second interview)

Therefore not only did the original, negative experience of interacting with the students encourage Ben to develop a new strategy, but it also prompted him to think about why the students might not have been reading the papers previously. This instance appeared to be a key aspect of development as, towards the end of the extract, he seemed to imply that he would take this experience into other areas of his teaching.

### Additional challenges of interactions with students

The main basis for *instances of interactions with students* acting as the core influence upon the new teachers’ development was as a result of the additional challenges that these instances appeared to bring. One of these additional challenges that came from increasing interaction with the students was that of *group management and student conduct*. This was an issue brought into the foreground, in particular by Dave, a lecturer in psychology. However, concern over group management and student conduct was also apparent in about half of the participants when they described the use of more open, interactive approaches to teaching. The following extract provides a clear illustration of this element of teaching and the development of group management skills that was prompted by the experience of interacting with students:



I did get feedback from them, they all interacted, they all took part in the activities and they all were..., seemed to be interested. A couple of them were asking questions and questioning the theory I was talking about, which was great. But there was a slight problem to that particular session just because there seems to be some unease amongst the students themselves, and there's a small group of them who don't seem to get on with the rest and appear to be quite disruptive. So on top of all that, all the teaching and learning, it's about..., because this is the first session I've had with this group, it's about trying to maintain some, em, civilised behaviour in the session... and in a sense assert an authority and assert some ground rules about what's appropriate in these sessions and what isn't. And what wasn't appropriate yesterday was one student shouting across the room to criticise another student who'd actively taken part in giving me some feedback. And it's just..., it's quite a difficult session to do because you have all these things going on that you're trying to juggle within a 2 hour session, introducing things, getting them to question things, building a rapport, establishing ground rules, conduct, all that stuff in one 2 hour session. (Dave, psychology, second interview).

The above extract provides a quite vivid insight into the challenges of more open, interactive approaches to teaching and therefore starts to indicate why these experiences are likely to provide critical moments that impact upon the participants' development. Also, as a result of the multiple demands on the teacher during more interactive teaching, it is no wonder that a great number of the instances refer to situations with which they have struggled. The following extracts provide a number of different examples of participants' instances of interactions with students that have been less positive or created difficulties for the teacher:

In Transferable Skills Development I just don't feel I can get anything from them. There's a sea of blank faces and when I've finished they kind of wake themselves up and peel themselves off the desk, and possibly answer questions. But it's difficult to get that feedback, I think if I'm going through how to do an effective presentation what do I ask them at the end to check their understanding of it? Do I say 'OK how many points per slide of a PowerPoint presentation would you put up?' To me [that] doesn't particularly show that they've checked, I mean what I've tried to do in that instance is give them short presentations to do, which they're due to do the week after next. (Ruth, sports studies, third interview)

I sometimes feel that particularly with first years that they're just... they're talking without any reference to psychological theory. The standard is more just a general chit chat about what we're thinking and feeling and just their opinion on things, which is also quite a healthy thing to encourage at that level I think, but what I ideally want is them to be generating opinions based on psychology theory and psychology evidence. And that's something which perhaps takes a bit of time to develop. So sometimes I'll look around the room and I'll think is this actually achieving much actually what I'm asking them to do here, or are we just having general chit chat and what we think about...oh I don't know, dyslexia or whatever, just general thoughts and feelings. And so it's a case of trying to keep it linked with the theory, but it can be quite difficult particularly when it's subjects which they do find interesting which they just want to talk about you know. (Ben, psychology, third interview)

One of the bad [sessions] was that worksheet that I did with the exercise physiology group. They just didn't like it and I don't know whether it was that group or that..., or the few individuals that were complaining..., or whether it was the fact that it was half 3 till 5 and they'd had a long day and they just wanted to come in, get the lesson done and go. But they just didn't like it, it was a worksheet with about 4 or 5 tasks on..., it included...a cross sectional diagram of some hypertrophy occurring. I had to set little tasks around it, I just wanted them to kind of describe or explain what was happening in the diagrams, for them to write down what they thought, then to share it with the person next to them. Then come together in groups of 4 or 5 to say what they all thought and then lastly to come together in a big group and just go through it, they just didn't like it for some reason. But I don't know whether it was all the other factors taken into account or whether it was they just didn't like that thing so I'm gonna do it next year, I'm gonna keep it the same and try it next year with a different group...(Anne, sports science, second interview)

Although these extracts illustrate more challenging aspects of interacting with students, the experiences still appear to have had some impact upon their teaching and development. For example, in Ruth's situation, the lack of feedback she has had from the students through the interactions has encouraged her to change her approach and get the students to do a short presentation. Anne was slightly different in that she came to the conclusion that she was going to use the same approach the following year, despite a lack of success. Although there was no obvious shift in her way of teaching, the nature of the interaction with the students did provide her with information that allowed her to reflect. These instances made her aware that different things may work with different groups at different times. In Ben's case, again there was no obvious reference to development, but there was a great deal of more implicit analysis and reflection upon how the *active involvement approach* was being handled by the students and its effectiveness for learning the subject.

What also appeared as critical in all of the instances of interactions with students from Ruth, Anne and Ben above, was the role of the particular contexts within which they took place. For Ruth, the contextual factor of importance was the subject area being taught, in Anne's case it was the particular group and the time of day, and with Ben it was the students' existing knowledge in relation to the subject. Despite the variety, these contextual issues provided an additional dimension and often offered new challenges to interacting with the students. Although less positive, these instances of interactions with students and their additional contextual challenges appeared to have been just as instrumental in developing the individual's thinking and approach to teaching.

This section has demonstrated that as well as being a desirable approach to teaching, the active involvement of students produces interaction that acts as an important influence upon the teachers' development. The nature of this interaction and the associated development was illustrated for different individuals in different contexts and this appeared to provide variation in the type of development. The various types of development highlighted included: an increase in the number of strategies available to the teacher; a shift in the intention for actively engaging the students; an enhanced awareness of learning and the students' role in learning; and a development of group management skills. However, the key influence or trigger upon all these various forms of development was the access to new information that was provided by instances of interactions with students. Furthermore, it was argued that such development came about regardless of the original intention of this interaction. Finally, the occurrence of critical moments of interactions with students was raised as a possibility. In a number of participants there seemed to be particular instances of interactions that were associated in a shift in the way in which they thought or acted as a teacher. Despite these insights into teacher development, as a result of instances of interacting with students, it would be too simplistic to consider this the sole influence upon teachers' development. Therefore the following section will provide an analysis of some of the other influences upon development and the interaction these appear to have with instances of interactions with students.

## **Other influences upon teacher development and their interrelationships**

This section will introduce a number of additional influences upon an individual's development as a teacher, which include: *knowledge*, *confidence* and *peer support and training*. These influences are differentiated from the core influence as their influence upon development appears to operate through encouraging greater interactions with students. Due to the strong interaction with the core influence upon development, but also each other, the following section is structured around four main themes that have emerged from the analysis of these influences. The first of these themes focuses upon the close relationship between content knowledge and

confidence. The second theme considers the influence that this knowledge and confidence appeared to have upon interactive teaching approaches. As these first two themes could almost be considered as a mini cycle in themselves, they will be addressed together in the first sub-section. The third theme centres upon the role of experience for the development of knowledge and confidence, while the fourth and final theme considers the development of knowledge and the link between this and peer support and training. As these third and fourth themes are both related to knowledge and the development of more interactive approaches to teaching, they will be considered in the second sub-section. Through illustration of these themes, the interrelated nature of the influences and their effect upon the core influence will start to become clear.

### Interaction between content knowledge and confidence and the influence upon interactive teaching

This sub-section will help to solidify the picture of a self-perpetuating cycle that has started to emerge in the findings so far (Figure 5.2). Discussion and evidence has already been provided in the previous section for the relationships on the left hand side of the diagram. The following sub-section will consider the relationships on the right hand side of the diagram, in particular between content knowledge and confidence, but more importantly, between these factors and an approach that actively involves the students.

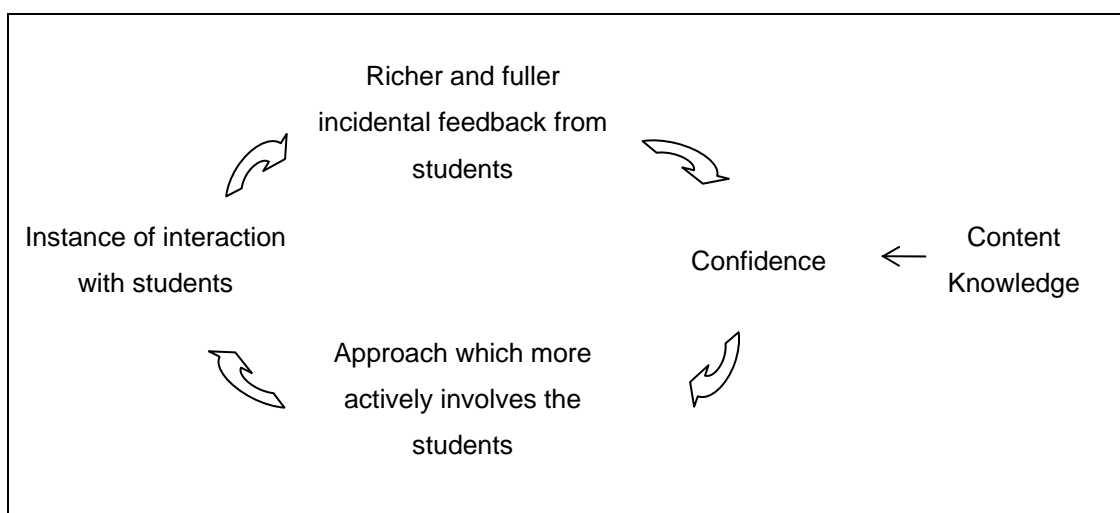


Figure 5.2. The cyclic influence of content knowledge and confidence upon teacher development

One of the main concerns of the teachers was whether or not their knowledge of the subject area was sufficient to teach it. The following extracts provide an insight into how the teachers tried to manage this in slightly different ways. These included: reading up on the areas that were likely to be raised by students; systematic preparation of lecture notes; the intention to do some more background reading in the subject area; and telling the students that they would find out whatever they did not know for the next session.

So normally she'll photocopy me like four or five chapters on that area and then I'll have to read them all just to get some like kind of background knowledge so..., 'cause without that I don't think I would feel comfortable going and delivering the seminar (Lucy, sports studies, first interview)

I think that as a new lecturer starting out for my own confidence I wanted everything to be clearly stated on the overheads so that I could you know refer back to it and follow it through systematically and that's a process that will just come along with confidence and experience (Ben, psychology, first interview)

Thinking about my depth of knowledge, I didn't know whether it was going to be enough to teach that level of a group. They were a fantastic group, the foundation degree first years...really motivated. I just sort of got a little bit het up... "Have I got that knowledge? That depth of knowledge to do that?". And I think I coped alright. I think I would certainly benefit from a little bit more reading in the area to take it that step further. (Simon, sports studies, first interview)

There's one seminar that I particularly didn't enjoy as a graduate teaching assistant with a group of second year undergraduates and the simple fact is that I didn't know enough about the subject area. So I wasn't confident in teaching it and I think that must have come across to the students and they were asking quite a lot of questions that I really just couldn't answer! And there's only so many times that you can say "I don't know I'll find out for you" you know still look like you know what you're talking about (Ben, psychology, first interview).

What is consistently described in the extracts above is a link between content knowledge and the individual's confidence. The teachers used terms such as 'comfortable', 'confidence' and 'het up' to describe what appeared to be quite similar experiences or feelings towards lack of content knowledge. Another important thing to note from these extracts is that they were all from the first interview. By the time of the second and third interviews, such comments were less frequent and there appeared to be two quite different reasons for a reduction in concern for content knowledge from the teachers. Firstly, they reported an improvement in their knowledge through having taught the subject. But secondly, and possibly more importantly, some teachers described a reduced focus upon content knowledge, which appeared to be due to a shift in how they saw teaching.

For some individuals this shift led them to have less of a feeling that they needed to know it all. Lucy, in the extract above from the first interview, described reading several chapters before the session in order to feel more comfortable and better able to deal with teaching. However, by the third interview, there was some evidence of a shift in this way of thinking as she made the comment;

I think it's more about confidence as well, knowing that if somebody asks you a question, a group, that you can find a way of them solving it without you answering it (Lucy, sports studies, third interview)

To some extent this type of development came out even more explicitly with Gary, a lecturer in physiotherapy:

I'm a quite happy to stand up and teach something or facilitate some learning, and if I don't know it I'm quite happy to say I don't know and I'll find out, or you go and find out and come back and let me know. I think when I first started I probably considered that to be a bit of a weakness not knowing, whereas it's not really, it's part of my own learning process, so I'm quite happy to do that and I think that allows me then to go into pretty much any area within my limitations, and I know my limitations (Gary, physiotherapy, third interview)

However, for one teacher in particular, this ability to feel at ease, regardless of subject area, did not appear to develop as well. By the time of the third interview, Ruth's confidence was still very much dictated by the subject area and her perceived level of knowledge in that subject area. This is quite clearly illustrated in the following extract:

I think in physiology if I'm comfortable in the fact that I'm able to answer any questions that they'll come up with certainly at the level that they're learning at, because it's that module that I've done it so many times. I know the module, I know what's expected of students, I know the level they need to learn at, I know now how to simplify things for them and that I feel that I know far more than they do, whereas I don't in the others, certainly Transferable Skills Development. Sport organisation, again I'm OK, I'm better but still don't... I still don't feel that I know enough. (Ruth, sports studies, third interview).

This lack of knowledge and comfort with the Transferable Skills Development (TSD) module seemed to have had quite an impact upon Ruth's development and was in contrast to those experiences described above from Gary and Lucy. For example, Gary described a generic shift in his confidence and approach, whereas

Ruth's confidence and approach appeared to be quite module-specific. On the TSD module, Ruth described her teaching as being the delivery of information, despite her desire to more actively engage the students. The following description provides a context-rich insight into variations in development:

For a TSD lesson I have to have everything written up for me and it's very much read from the slide and kind of expand a little bit, but I'm not comfortable in doing much more than expand the notes on that. I also don't feel that I give them enough to do in the lesson, it's only an hour's lesson but I feel very much dictatorial when I'm standing up and telling them what to do. They just write things down and I don't... there's not very much integration, some of that's because I don't really know the group so I don't feel that I can pick out individuals to discuss things with. I've tried having the kind of short practicals, note-taking I think we did, was actually one of the more successful ones. They had to get into small groups and one person had to say what they did at the weekend, one person had to take notes in a effective way so they were effective enough for somebody else to really re-tell that story afterwards from their notes. And that was OK because they all have something to do, but mostly it's fairly dictatorial, fairly stand up at the front and talk, and I don't like doing that (Ruth, sports studies, third interview)

This extract demonstrates the considerable influence that knowledge of the subject and confidence had on influencing the teacher's approach to teaching and the level of interaction they were prepared to have with the students. There are also links to the second theme identified at the beginning of this section in that the critical aspect of content knowledge and confidence is not just how they interact with one another but how they influence an individual's approach to teaching. The remainder of this section will draw out some of the multiple examples in the current data of how knowledge and confidence influence teaching approach and in particular the *active involvement of students*.

As in Ruth's situation, it appeared that when the teachers perceived a lack of content knowledge in the subject area, which was associated with a lack of confidence, they tended to be less willing to adopt more open, interactive strategies. This relationship between content knowledge, confidence and teaching approaches came through as a very clear and consistent theme in interviews with the majority of the participants. The following extracts act to illustrate this:

The more familiar subjects that I have, I think I spend less time at the side of the laptop to flick over onto the next slide. More confident to wander round and up and down, and ask questions if it's a subject that I've got an in-depth knowledge about. I'm probably more interactive with the more knowledge that I have. I try to be interactive with every subject that I teach but obviously with more confidence in what you know you can afford to be more interactive. (Gary, physiotherapy, first interview).

So I don't have any problems sort of with working on a one to one setting, I suppose my worry is that they're gonna ask something that is in a situation that I can't handle. (Ben, psychology, second interview).

I do feel more confident, even in big lectures you try and engage them by giving them tasks and giving them things to do and then asking questions... I still think in areas I don't know that well I try to keep more control than perhaps I should, even in seminars I probably, yeh, I am a bit more closed than I would be if it was something that I knew well. (Lucy, sports studies, first interview).

I think as I became a little bit more confident I did start to reduce the text. Realised that having a lot of text on a projection wasn't very good either. I kind of reduced it as I became more comfortable in front of the class speaking and gaining a better knowledge of the subject area. (Simon, sports studies, first interview).

What if they ask me a question and I'm not sure? I don't really want that so I just used to, like, a lot of information in there, as where now I think it's almost like I'm probably more confident in my own knowledge as well that it's really been dumped down to.., it's concise bullet points. I talk around the bullet points and link them together and then I put a lot more tasks in there. (Anne, sports science, first interview).

An aspect that comes out both implicitly and explicitly in the extracts above is that the teachers appeared to have a fear of being asked something that they did not know the answer to. Therefore a number of the teachers described their strategy as using approaches that would reduce the likelihood of being questioned by a student. In other words, when their perceived content knowledge and confidence was low, they tended to avoid interactive approaches to teaching. An important outcome of the current investigation would be to identify how this cycle can be broken in order to enhance a teacher's knowledge, confidence and therefore develop their approach to teaching. What has been already mentioned in this section, and is also supported by the extracts above, is that the majority of such descriptions occurred in the first interview and declined thereafter. In itself this lends some support to *gaining of experience* being a critical factor in enhancing knowledge and confidence and influencing the development of teaching. However this observation requires further support. In order to continue on from this suggestion that experience plays a key role in enhancing knowledge and confidence, the next sub-section will start by considering the third theme highlighted at the beginning of this section, which



centres upon the role of experience for the development of knowledge and confidence.

### Pedagogical content knowledge and the development of more interactive approaches to teaching

The experience of interacting with students as a core influence upon development has already been discussed in section two of this chapter. In addition the participants within the study spoke about the benefits of gaining experience of teaching in a more generic way. The concept of *gaining of experience* that came from the analysis has some close links to previous research on expertise. In particular, this description of gaining a more intuitive grasp of being a teacher and a reduction in the strict adherence to a set way of working, matches well with the generic Dreyfus and Dreyfus (1986, cited in Eraut, 1994) model of professional expertise development. A number of participants in the current investigation described experience from the perspective of a longer term influence as a result of simply being a teacher and engaged in teaching. The following extracts provide an insight into the nature of this theme from a range of participants.

I think experience is the big thing, I think once you become comfortable within your own environment standing up and talking that then helps you concentrate a little bit better on what you actually know. (Gary, physiotherapy, second interview)

The delivery certainly feels easier but I'm not sure whether or not that's anything to do with the content and more to do with my own confidence as a teacher growing really. I do feel more comfortable in a lecture situation, it doesn't sort of cause me great anxiety any more. So yes, perhaps a little bit of both, familiarity with the material and sort of confidence from experience (Ben, psychology, third interview)

I know things better now. I know how to mark which is good 'cause I didn't to start with. I mean, when I first started in September I was given, just kind of given these groups and I didn't know that,...you've got these boxes that you have to put all your information in them so that other people can check that you're doing things right. I think it's just my understanding of the way College works and the bits that you have to do. Like your assessment sheets to fill in. Rather than just teaching it and go home, you have to assess them. And if it's foundation degree they have to have a formative assessment as well which I didn't know to start with. So the idea is you're supposed to assess them part way through, discuss it with them, tell them where they're going wrong and how they might develop and then assess them again at the end. (Ruth, sports studies, first interview)

Important to note in the extracts above is the different ways in which *gaining of experience* seems to influence the teachers' development. Rather than being a direct

influence upon development in itself, it appeared to have an effect upon knowledge and confidence, which in turn had an influence upon teacher development. In the descriptions provided above, there seemed to be a subtle blend of confidence and comfort, content knowledge and pedagogical knowledge, which were all enhanced by the cumulative experience of having taught over a period of time. For example, Gary described a situation whereby experience had given him the opportunity to practise the skills of standing up in front of a group and talking to them. After a while he became more comfortable with this pedagogical skill which allowed him to think more about his content knowledge and how to bring this to bear with the group. Such a development process did not appear to be too dissimilar to Ben where his comfort and confidence as a teacher also developed over time. This development seemed to be due to not only a greater comfort with just being a teacher, but also greater comfort as a result of being more familiar with the material in the context of teaching it to a group of students. The final extract from Ruth was slightly different as it seemed to be purely related to experience as being critical in the development of pedagogical knowledge. In particular she described her own experiential learning with regards to institutional and departmental policies and processes, which appeared to have been critical in her gaining a greater awareness of the role of a teacher.

An important dimension to the teachers' development in terms of gaining experience was the repetition of teaching a module on consecutive years. Again there were different ways in which repeating a specific session appeared to impact upon an individual's development. A number of the teachers referred to it as providing them with more time due to a reduction in the amount of planning needed. Others described the impact that it had upon their knowledge or comfort, whereas one teacher referred to a feeling of greater control and ownership over the direction of the module. The following extracts provide an example of each of these ways in which the experience of repeating a module appeared to support the teachers' development:

I think one of the things that's changed from last year is that last year was my first year of lecturing and I was picking up modules from previous members of staff...but I didn't have anything other than the basic structure of the module, so all the lectures, all the sessions I had to write myself for all the modules, so that was very time consuming. This year I've now got last year's to fall back on and I don't spend the time writing things from scratch, so the time I've got can be spent on other things; modifying things, thinking about more interesting ways to present this and so on so I've got more time anyway (Dave, psychology, second interview)

Having learnt from my first year, I didn't find it as much of a strain in terms of time management, getting the same syllabus across. I think 'cause I sort of looked at the module...looked where I could cut down on things that I didn't think were as important as areas that I did. And I think I certainly learnt, you know, what I do need to spend a bit more time on...what the students seem to be taking in a little bit more easily than others. (Simon, sports science, first interview)

I think it's just continuity, you know it's something that you do every semester and it becomes almost second nature, and where I'd like to think that I don't have to repeat everything word for word every semester I think it's having comfort in the fact that you're standing up and students do respond to what you're saying. (Gary, physiotherapy, third interview)

And cos it's my module now and they're my seminars that I've run. It's kind of easier for me as well cos I know what I want to do within that time. It has helped with the continuity and control, whereas before you were dipping in and out of things. I know exactly what I want them to do and learn, so it's much easier to teach it I think. (Lucy, sports studies, third interview)

Another interesting aspect that emerges from some of the extracts above, particularly in the first from Dave, is that this experience of repetition gave the teachers an opportunity to modify and experiment with their strategies. Repetition appeared as a quite strong feature in a number of the participants' descriptions. A further good example of this is illustrated by the following extract from Anne:

And it was very structured like that, and now I think as I've become more confident and I'm prepared to take more risks and I'm trying to find my own style I think I've gone on another learning curve. And that will probably plateau in about a year's time. But yeah I genuinely just think that at the minute I'm going through a little phase where I'm prepared to take risks (Anne, sports science, third interview)

What is important to note here is the close interaction between this *gaining of experience* and the development of confidence. It appeared that the gaining of experience provided the confidence to try out new things. What was less clear was where the ideas and pedagogical content knowledge came from in order to develop strategies with which to experiment. Although the importance of experience has been argued for strongly so far, it would seem sensible that there is a need for an

origin for the new knowledge and strategies with which Anne describes taking risks. Often the participants found it difficult to explain where their ideas came from as they were often quite spontaneous. For example, Anne described one instance where she developed an idea as:

I literally just looked at it, it was about twenty past eight and the lesson was at nine o'clock. I just thought... I don't know, it's like a light bulb, it just went boom why don't you do it this way. And I just went with it and it went well, and I always find that sometimes they are the best lessons (Anne, sports science, third interview)

However, the participants also referred to a number of other more explicit sources of inspiration. These included *peer support and training* and they provide the fourth and final theme in this section.

Peer support and training appeared to interact most strongly with pedagogical knowledge and pedagogical content knowledge. In addition it had three quite distinct forms within it. The first two of these sat within the peer support dimension of this influence and included: formal planned input from colleagues and more unstructured support where something was just 'picked up'. In the main it was the latter that appeared to dominate. This more informal support is reflected in the first two of the following extracts and the more planned support is illustrated in the final extract where Tom described his experience of a lesson observation.

I do now make a conscious effort that I'm not talking for longer than twenty minutes without having some sort of break. And obviously it depends on the lecture, so the break might just be, this is one Gerry's ideas, that it might just be that you ask students to take a couple of minutes, chat to the person next to them and see what they've written down in their notes, is there anything that you can copy which will help you with your notes. (Ben, psychology, third interview)

Trial and error basis but also listening and soaking up the culture and the atmosphere around you from colleagues and from the institution itself about what seems to work with a certain group, what doesn't work, what's encouraged, what's discouraged and things like that. So all those things would go in to help me to make the decision, but it's sometimes perhaps less informed by data than by sort of gut instinct or oh I'll try that this time I think (Dave, psychology, third interview)

I also got a bit of guidance from other people teaching on the course, on what to try and include in terms of the PE kind of things. The head of department lectures in my field as well and he sat in on one or 2 lectures and purely by me asking, you know he wasn't going to force it down my throat that I should do this, that or the other, it was me saying, 'Well what way do you think I could try and sort of change things?' and he suffered from the same problems with the logistics of the hall (Tom, sports science, second interview)

Interestingly, unlike in the case study of Claire in the previous chapter, there were no negative reports from participants regarding the influence of peers upon their teaching. All the teachers' experiences appeared to describe situations where their peers had supported their knowledge, which helped in their development as teachers. Although not a negative or decelerating instance in the same way as Claire, the only other participant to describe something close to this was Ben. Ben's experience seemed to be more related to a frustration at times that no one could give a clear answer or way forward and this seemed to have impacted upon his confidence.

I do feel that if there's something which I'm just not quite comfortable with as yet, everybody's been very helpful, but the message I get is that people do things quite differently and that everybody's got their own way of doing things, which in a way is great but in a way isn't very helpful because that suggests you've got to establish your own way of doing things. And my worry is always whether or not I'm doing it right basically, and again I think that's just a young lecturer sort of confidence. (Ben, psychology, second interview)

The third category within the *peer support and training* influence is the institutional postgraduate teaching certificate (PTC). As all the participants in the study were engaged in some kind of institutional teaching award at some point throughout the course of the interviews it is no surprise that this was dominant as an external influence on teaching. The participants described this influence in two quite different ways. A number of descriptions of the PTC were in relation to development of pedagogical knowledge such as writing learning outcomes, different teaching methods and room set-up. However, there also appeared to be a far more fundamental influence of the PTC programmes, which was getting the teachers to think about the active involvement of students in their teaching. The following two extracts provide a good illustration of how at times the PTC programme has helped the teachers expand their awareness of different approaches to teaching:

I think I'm just kind of like shifting more towards this sort of ideal of what I think I should be doing as sort of a modern higher education practitioner and sort of trying to..., it's not really sort of anybody..., any person that's an inspiration it's more sort of these ideals of what I should be trying to achieve. And that I've just learned from the [PTC] course. I think, some of which is very good, some of which is not so good, but the stuff that is good is really useful and I think I've got to..., it has sort of changed the way that I think about planning the sessions and I will be interested to see the feedback I get from the students based on those changes (Ben, psychology, second interview)

I think I do need to get the students being more active in sessions..., I am aware that I need to do more of that... When I was doing [PTC] it put a lot of pressure on to do that. Now I've completed [PTC] I don't feel a pressure to do it, an external pressure to do it, but I feel as though I should be doing it because I have knowledge of these other approaches (Dave, psychology, second interview)

This section has provided an insight into the interrelated and at times context specific nature of the three other influences of *knowledge*, *confidence* and *peer support and training*. What also became apparent was the interrelationship between these influences and the core influence upon development; *instances of interactions with students*. Knowledge provided the teachers with the ideas and confidence to experiment with strategies that more actively involved the students, which, in turn, resulted in more interaction with students. As the teachers gained experience this also impacted strongly upon their knowledge and confidence in teaching, which again encouraged the teacher to use more open approaches to teaching. Therefore these influences appeared to provide a self-reinforcing or snowball like effect upon the teachers' development. In a similar way, peer support and training had a strong link to the teachers' knowledge in terms of actively involving the students. Such a link starts to suggest the existence of a number of interrelated factors, with instances of interactions with students at the core, which influence the development of the teachers' understanding of teaching. However, this section has also remained alert to the critical part that context plays in the nature of this development.

## Conclusion

This chapter started by outlining the first major theme within this thesis which is the way in which the participants described thinking about and approaching their teaching. Within this the distinction was made between two quite different approaches to teaching that came out of the analysis: *delivery of information* and *active involvement of students*. Although these approaches do not appear to be too

dissimilar from those described in previous research, the finer grained analysis used in the current study appears to have provided a more nuanced insight into how these approaches operate on a day to day basis. What emerged was that a major influence upon which approach was used by the teachers was the contextual factors such as *time* and the *subject* or *topic* being taught.

In terms of the nature of development of the participants in the current study, what tended to predominate was a shift towards a greater proportion of their teaching focusing upon more actively involving the students. A key aspect with regard to the nature of development was that, for the majority of the participants, it was characterised by a shift in *intention* for adopting a particular approach rather than a shift in the general *strategies* that they used. However, this development was not straightforward and a number of the idiosyncratic challenges that individuals faced were highlighted.

The next two sections drew out the sub-themes within the next major theme from the analysis: influences upon teacher development. The first of these sections described the participants' *instances of interactions with students* as being a *core* influence upon development. The critical moments that instances of interactions provided for some teachers were drawn out. In addition it was suggested that these critical moments appeared to act as *portals* through which development takes place. The nature of these experiences varied a great deal between individuals, with some being a result of planned changes to make their teaching more interactive, others occurring from chance events, or interaction being used to counter problematic issues in their teaching. Regardless, these interactions appeared to provide the teachers with an insight into their teaching of which they would otherwise been unaware. Again, the critical role that context played alongside this influence was also explored and, in some instances, the issue of *group management and student conduct* became more prominent as the interaction increased.

The next section continued with the theme of what may influence teacher development and provides an insight into the three other sub-themes within this

theme: *knowledge, confidence* and *peer support and training*. Alongside the description of the nature of these sub-themes, the strong interactions between the influences are identified. A self-perpetuating cycle was proposed where the incidental feedback from interacting with students, alongside the development of content and pedagogical knowledge through experience and peer support and training, enhanced confidence. This process, in turn, provided a greater willingness to engage in more open, interactive approaches.

Within all of the findings, the rich, contextual flavour of the experiences are preserved, which allows for idiosyncratic and counter incidents to be highlighted. However, there also appears to be enough commonality in experience for the creation of some ‘fuzzy generalisations’ (Bassey, 1999). Some level of generalisation will be picked up further in the following chapter where a model to help illustrate teacher development, and the main influences upon this development, is presented.



## CHAPTER 6 – DISCUSSION

### Introduction

This final chapter of the thesis will draw together the key findings from the previous two chapters and discuss these in light of the existing literature to try and further our understanding of how new teachers in higher education typically develop. A major focus of this discussion will be the influences upon teacher development in higher education, which the longitudinal design of the investigation has brought into focus. It is the mapping of these influences and their interactions that act as the principal finding from the current investigation. The model (figure 6.1) illustrates this key finding and acts as a guide for the discussion in the first three sections of this chapter.

The first section of this chapter explains the three key influences that sit at each of the three corners of the triangle in figure 6.1, which include: *teacher knowledge*, *confidence as a teacher* and *peer support and training received*. Section two will then examine what the current study has termed the core influence upon development, which is '*instances of interaction with students*'. In particular this will focus upon the finding that often teachers described these instances of interaction as being critical moments for providing rich and full feedback on their teaching. The third section unpacks the nature of the teachers' development in terms of their evolving approach to teaching. This discusses the challenges they described in terms of integrating strategies, which more actively involve the students, but also the development of their intentions for teaching.

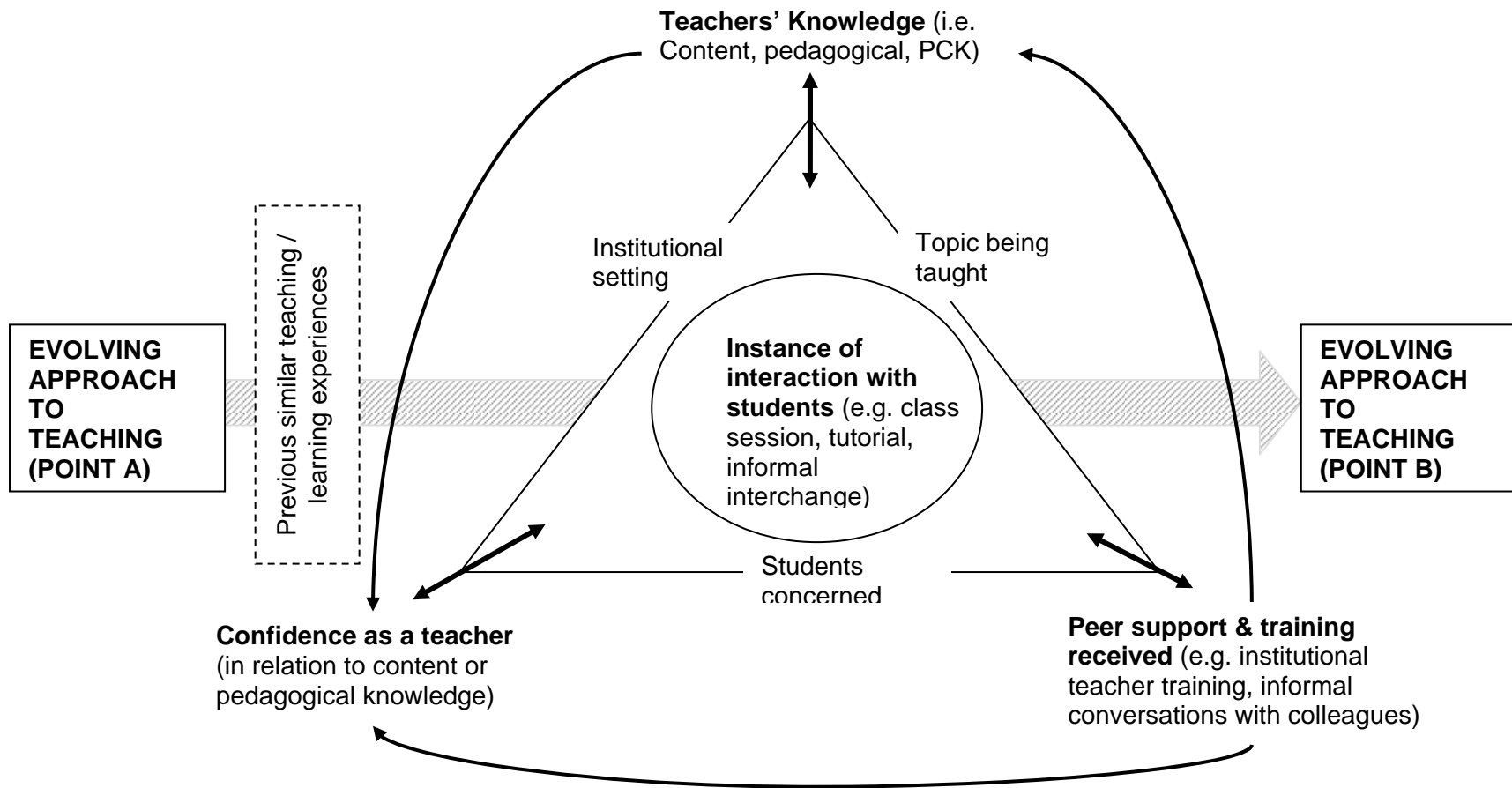


Figure 6.1. Model to illustrate the influences upon teacher development

The fourth section moves away from the model of development and discusses some of the more idiosyncratic aspects of development that emerged as a result of the fine-grained analysis that the methods allowed. This includes discussion of three quite different aspects of being a new teacher from three different individuals. The first is Kate's experience of being a new teacher who held a sophisticated conception of teaching and the issues she faced in putting this into practice. Secondly, Claire's concern over the moral issues of being a teacher and the impact this had upon her development. The final idiosyncratic aspect to be drawn out in this section will be from Alice, in relation to her identity as a teacher and the sway this held over her approach and development at particular times.

The chapter will then conclude with a consideration of the methodological and practical implications of these key findings. The section will consider the value of longitudinal and fine-grained research in order to unpick the complexity of teaching over a more protracted period of time and provide recommendations for teacher training in higher education.

## **Influences upon teacher development**

Although teacher development in higher education has been outlined in a number of different ways in the literature (Fuller, 1970, cited in Eraut, 1994; Kugel, 1993; Nyquist and Wulff, 1996; McKenzie, 2002 and Entwistle and Walker, 2000), there has been less attention on the influences upon the developmental process. The fine-grained analysis and longitudinal approach in the present investigation has allowed for the identification of a number of key influences upon development, which will be discussed in the following section. Prior to this, it is important to outline the interrelationships between these influences that Figure 6.1 aims to illustrate.

Although *instances of interactions with students* will be considered in section two, it is important to stress that a two-way relationship was identified between this core influence upon development and the three influences of *knowledge*, *confidence* and *peer support and training* to be considered in this section. Therefore not only did knowledge, confidence, peer support and training impact upon the number and level

of interactions with students, but the interactions with students also seemed to give rise to variation in an individual's confidence, knowledge and the peer support and training that they might seek. In addition, the three influences of knowledge, confidence and peer support and training all interacted with one another to some extent. For example, an individual's *content* knowledge in particular influenced his or her confidence. Peer support and training could also have a direct effect upon confidence, but also upon an individual's *pedagogical* or *content* knowledge.

However, these relationships were not always straightforward, as the specific contextual factors played a significant and at times dominant role in terms of the nature of the interactions with students. These contextual issues are represented by the three sides of the triangle (Figure 6.1) and include the institutional or departmental setting, the nature of the students involved and the specific topic being taught. It is these relationships and the contextual issues that will be drawn out in the following section.

## Confidence

One of the dominant sub-themes within the *influences upon development* theme in the current study was the way in which a teacher's confidence impacted upon his or her development. Confidence was described in relation to an individual's perceived content and pedagogical knowledge; however, often it was content knowledge that appeared to predominate. If the teachers perceived that they had a good level of content knowledge, confidence tended to be high. The main influence of this greater level of confidence upon development was that it was often described in conjunction with taking risks and trying out new ways of teaching. Therefore, although conceptual change has previously been considered as an important pre-requisite for a change in approach (Kember and Kwan, 2000), the current study suggests that it might be more complex than this. There were instances in the data from the current investigation where individuals reported taking quite teacher-centred approaches in a particular setting if they perceived their content knowledge, and therefore, confidence, to be low. Use of more teacher-centred approaches often occurred despite a teacher appearing to hold more learning-orientated conception of teaching.

Considering this seemingly critical role of confidence and the repeated reference to confidence in all interviews with all participants, it is somewhat surprising that this has not been more of a focus in the conceptions of teaching and teacher development research. Nevertheless, there is evidence of brief reference to confidence as a concept in some of the previous literature. In Fuller's (1970, cited in Eraut, 1994) model of development, a relatively early phase of development refers to 'concern about one's own adequacy: subject matter and class control'. This concern for confidence might be confined to more junior teachers and be a rather self-centred and simplistic concern. However, more recently, Åkerlind (2003) identified that a conception of teacher development that focussed upon comfort and confidence was associated not only with a *teacher-focused* view of teaching but it also combined with a *student-relations-* and *student-engagement-focused* conception of teaching. In addition, the participants' level of experience in Åkerlind's study ranged from a few months to 35 years. These findings suggest that confidence may be more than just a temporary concern for *new* teachers and it is not only a factor for teachers with teacher-focussed views of teaching. Combining the data from Åkerlind and the current investigation it would appear that confidence may be a far bigger construct in teacher development than has previously been identified. In addition it appears to be an important influence regardless of the conception of teaching an individual holds.

An important aspect of confidence in the current investigation that has been suggested elsewhere (Pintrich and McKeachie, 2000, cited in Lindblom-Ylänne *et al.*, 2006), is that confidence is not a generic concept but a reflection of the person's perception of their capacity to achieve a particular goal in a specific situation. Although Lindblom-Ylänne (2006) demonstrated variation in self-efficacy between teachers from different disciplines there was no indication of variation in the same individual in different contexts. The current investigation, however, demonstrates that, in different contexts, the teachers often selected quite different approaches and this was often related to their confidence. For example, if the teachers were in a setting that they had not previously experienced and they perceived their content knowledge of the topic to be relatively low, confidence was also described as being

low. In such a context they would often opt for more teacher-centred approaches to teaching. It appeared that the additional unease that actively involving the students created meant that confidence in the other aspects of the teaching and learning context had to be high before the teachers would contemplate increasing opportunities for interacting with students. Particularly in the first interviews, when many of their experiences were new, the majority of the teachers spoke about the fear of being asked a question that they would not know the answer to and Kate specifically described learning to 'be a bit braver' in approaching students. Although similar suggestions have been made in other recent investigations (Gordon *et al.*, 2007 and Carnell, 2007), these have been rather fleeting and not explicitly linked to implications for teacher development.

## Knowledge

A section which discusses knowledge, in isolation, is difficult to write as it is a concept that is inherent within all dimensions of teaching and therefore in the findings from this investigation. Therefore it is important to stress that the concept of knowledge, in terms of content knowledge, pedagogical knowledge and pedagogical content knowledge, is embedded at numerous points throughout this chapter. For example, content knowledge in relation to confidence has already been explored in the section above. In some of the later sections, where some of the difficulties that the teachers faced in terms of using approaches which more actively engaged students is discussed, pedagogical knowledge and pedagogical content knowledge come through as critical influences. In general, what is highlighted at these points is that a greater knowledge was associated with a greater insight into and willingness to use approaches that more actively involved the students. As the influence of knowledge upon development is considered elsewhere, from different perspectives, the following section will focus upon how knowledge itself appeared to be developed and how this relates to the past literature on teacher knowledge and reflection.

The suggestion that a deep personal understanding of the subject matter is a key aspect of more sophisticated conceptions of teaching is not new. Shulman (1987)

identified a number of different forms of knowledge bases for teachers of which content knowledge was one. Entwistle and Walker (2000) demonstrated parallels between development of a teacher's understanding of the subject and a change in his or her teaching towards the aim of fostering students' understanding and using more practical strategies. They suggested that a well developed content knowledge was about having a better 'feeling for the discipline' and a greater passion for a particular specialism or theoretical position. However, the descriptions from the teachers in the current investigation did not seem to explicitly refer to development in their content knowledge in terms of coming to see the subject in a different way. What seemed to be more the case was simply a greater *familiarity* of the subject and particular topics they were teaching.

This concept of greater familiarity, through the gaining of experience from similar teaching situations, appeared as an important source for the development not only of the teachers' content knowledge but also their pedagogical knowledge. The longitudinal design of the current investigation over a two-year period often allowed for the investigation of the teachers' experience in the same session the following year. It would appear that they found the process of reflection, knowledge development and subsequent change far easier when it was in relation to a single specific session that they repeated, than more generic reflection across unrelated topics and activities. There are parallels here with this concept of familiarity and *experiential knowledge* (McAlpine and Weston, 2000). Although McAlpine and Weston do not explicitly refer to the issue of transferring experience across quite different contexts, what does become apparent is that the process of developing principled knowledge about teaching from experiential knowledge is not a simple one:

Transforming experiential and tacit knowledge into principled explicit knowledge about teaching requires, we think, intentional reflection for the purpose of making sense of and learning from experience for the purpose of improvement. In this way reflection requires linking existing knowledge to an analysis of the relationship between current experience and future actions or application. As such, reflection aids in pattern recognition and reconfiguring knowledge. The outcome of the process of reflection is the building of or expansion of knowledge. (McAlpine and Weston, 2000, p374)

Therefore it could be suggested that there is a greater need for fixity of contextual factors to support the reflections of new teachers and the development of knowledge. There is another aspect from the previous literature that also appears to help this argument. McAlpine *et al.* (1999) referred to a concept of a *corridor of tolerance*, which was defined as the acceptable level of mismatch between actual teaching and an individual's expectation of teaching. It could be proposed that for the teachers in the current study repeating a session provided a specific point of reference regarding their expectation for the session, which at the first time of teaching may not have been clear. Therefore the previous experience of teaching this session allowed the teacher to establish a corridor of tolerance for this particular situation, which provided a framework for monitoring and expanded their knowledge base. Such a suggestion would be supported by McAlpine *et al.* (1999) as they believe that the corridor of tolerance does not maintain a constant shape or size. In hypothesising what may promote variation in the corridor, they identified as critical factors the extent to which: the teaching experience is novel or routine; the classroom variables can be controlled by the individual; and the decision making strategies are familiar. These factors would indicate that some level of consistency in what new teachers teach may be important for a number of reasons. Firstly, it provides a concrete situation on which to reflect and make specific changes to the way in which they approached the session. Secondly, it enhances content and pedagogical knowledge in a particular context, which supports confidence and is likely to lead to more interactive approaches to teaching.

### Peer support and training

Other than experience, another main source that helped in the development of knowledge and influenced the way in which an individual went about teaching was from peer support and training that they received. However, peer support and training seemed to play quite different roles in development. The formalised training, mainly in the form of the institutional Postgraduate Teaching Certificate (PTC), helped to enhance the teachers' pedagogical knowledge but also encouraged them to think more about using approaches which were more student-focussed in their nature. During the interviews teachers often found it difficult to explain where



they got their approaches to teaching from. Despite this, it was PTC and tacit knowledge (i.e. knowledge that was not at the level of perception or could not be described, and may be related to feelings (McAlpine and Weston, 2000)), which appeared as the most common descriptions from the teachers. It was difficult to unpick the precise impact of pedagogical training, as all of the participants undertook a development programme at some point over the course of the interviews. It is important to stress that this was not the same programme and it is likely that there was substantial variation in the content, delivery and philosophy of the programmes. Despite this variation a common aspect of the teacher development programmes was that they provided the participants with an awareness of different teaching strategies. Experimentation with a variety of strategies provided the teachers with new experiences upon which they could reflect. Such a process of development will be developed further in the section below, which discusses the provision of richer and fuller feedback as a result of instances of interactions with students.

The way in which peer support influenced development was to act as a filter for the ideas that they gained from their PTC into their specific departmental and subject context. Also this appeared as the type of forum where the participants often could get advice on the quite real and idiosyncratic concerns they had in terms of where to stand, what works with particular groups, strategies that lent themselves to teaching a particular topic. It was these types of issues, which were clearly illustrated in the case studies of Alice and Kate in particular, that were often at the forefront for the new teachers' concerns. Therefore with an emphasis of research into the efficacy of generic development programmes, which are predicated upon achieving conceptual development of teachers (Ho *et al.*, 2001), it is important not to lose sight of these more subtle influences upon development and ensure that they are not purely left to chance. Although a significant amount of research has been conducted into the impact of 'communities of practice' upon academics within higher education (Becher and Trowler, 2001) and Clark *et al.* (2002) have investigated the role of a subject specific workshop for development, no attention has been paid to *moments of specific advice* from immediate colleagues. The current investigation suggests that these often acted as a critical influence upon the new teachers' development. One of the

key aspects of this advice was that it was often from an individual who had knowledge of a particular group of students or teaching room. Therefore the suggestion was often extremely tactical, such as where to stand in the room to get the most interaction or a task that would engage a particular group with a specific topic.

## **Instances of interactions with students**

As discussed above, the influences of confidence, knowledge and peer support and training are critical factors in the current study, yet it is *instances of interactions with students* that acted as the core aspect of the development process for these participants. This influence is represented by the circle in the centre of figure 6.1. The following section will discuss how interactions with students played a central role in development and connect this with similar principles in the existing literature.

### **Richer and fuller feedback through interactions with students**

The concept of instances of interactions with students has clear parallels with previous models of reflection (McAlpine *et al.*, 1999). However, in a similar way to the Kane *et al.* (2004) study with exemplary teachers, the current investigation provides an insight into specifically what it is about reflection that supports a particular individual. For example, Kane concluded that it was purposeful reflection upon the key attributes of teaching that provided a better understanding of teaching, which made them exemplary. By contrast, in the current investigation of new teachers it appeared that the instances of interactions with students provided them with new information of which they had previously been unaware and it was this upon which they could reflect. Therefore the present study indicates that it was this specific element of the teachers' engagement in teaching that influenced the way in which they came to see teaching. In particular it would appear that the *feedback* received during these interactions was critical in terms of development as it prompts a change in the purpose and nature of the teachers' future interactions with students.

Various types of feedback that teachers receive in order to evaluate their teaching have previously been summarised by Hounsell (in press) as including: feedback from students; feedback from colleagues; self generated feedback in terms of reflections

and observations; and ‘incidental’ feedback from the everyday routines of university teaching and administration. Feedback from students can take many different forms, but recently, the most common is the use of formal module evaluation surveys. Although such evaluation surveys provide access to a ‘learners’ eye-view’ (Hounsell, in press), they are limited in terms of scope for matching the feedback with particular teaching episodes. In addition such surveys tend to consider teaching over a protracted period of time, making any corrections too late for a particular group. Hounsell also identified different forms of incidental feedback. These included more structured information or data in terms of student grades, attendance levels and external examiner reports, but also more chance observations or feelings from teaching situations, such as whether the students were alert, interested, tired or responding to questions.

Considering these different types of feedback that have previously been identified, it would appear that instances of interactions with students, in this study, provided quite a specific form of *incidental feedback from students*. Obviously, during these interactions with students, all of the feedback came from the students, yet it was informal, immediate and in response to a particular teaching incident. In addition, this type of feedback tended to take different forms depending upon the level of involvement of the students. For example, if the level of involvement was low, such as a traditional lecture, the feedback that the teacher received was less tangible and based upon the teacher’s perception of how well the students were learning. However, if the involvement from the students was relatively high, such as a teaching situation where a small group was undertaking a task, the feedback appeared to be richer, fuller and more explicit.

### Interactions with students as critical moments for development

In addition to comparison of the literature on feedback, there is other work that alludes to the key role of instances of interactions with students. Pickering (2006) assessed the process of teaching change in four novice teachers and identified ‘encounters with students’ as playing a significant role in influencing the way in which they taught. Pickering also outlined both explicit student feedback and more

implicit student response within teaching contexts. As already argued above, it would be the more implicit encounters with students that would appear to be most akin to the concept of instances of interactions with students from the present study. Pickering described this containing the following aspects:

Student response in lectures and seminars was interpreted as indicating the appropriacy of teaching. This was gauged by eye contact, facial expression and most crucially the degree to which students were available outside of class time, or whether they talked in lectures, arrived late, or failed to attend. (Pickering, 2006, p328).

Throughout the analysis, Pickering stressed the importance of experience as a teacher and suggested that encounters with students could have a more powerful influence than some of the other experiences, such as formal development programmes. Pickering also linked this finding with the concept of ‘practice-based’ scholarship of teaching outlined by Trigwell and Shale (2004). In other words, based upon the importance of encounters with students for teachers re-examining their existing beliefs, it is suggested that engagement in teaching and interactions with students appears to be critical for teaching change. This type of work appears to concur with the key proposal of experiences of interactions as a critical influence upon development in the current thesis.

A key aspect of these types of interactions and the associated feedback was that they often seemed to form critical instances (Table 6.2), which provided important *portals* for the participants’ development as teachers. A specific and rich insight into this is provided in the case study of Alice in chapter 4, where she described the development of an observational sampling session using a clip from Tom and Jerry. The way in which the students engaged with this prompted her to change the session and, in particular, take more account of the students’ existing knowledge of observation that she realised they would have, simply from their day to day lives. Implicit within this is the suggestion that it was the *experience* and the feedback she received from this that was critical in changing how Alice thought about teaching. In a similar way, Entwistle and Walker’s (2000) narrative ‘illustrated how more advanced conceptions can emerge out of earlier ones through everyday experiences with students’ (p352). The proposal that engaging in teaching can shape an

individual's way of thinking about teaching has implications for a significant point of contention in the approach to teaching literature. Currently there is an assumption behind the use of teaching conceptions in teacher development that, in order for an individual to improve, there is first a need to change their thinking about teaching and learning (Ho *et al.*, 2001). Eley (2006) argues that this suggestion of a causal relationship between conceptions and practice is too strong. In considering some of the broader psychological literature on attitudes and behaviours, Devlin (2006) suggested that it may be possible to change practice or behaviour and that teacher attitudes or conceptions may follow. Despite this proposal, Devlin identified that there was no evidence that this may be the case. However, the data from the current study does provide some support for this proposal, in that experience or practice appeared to be a major influence upon the way in which an individual came to think about teaching. The range of strategies the teachers were aware of and experimented with seemed to help to mould their conceptions and intentions of teaching.

## **The nature of an evolving approach to teaching**

The following section will consider the major input and output into the developmental process outlined in figure 6.1, which is the way in which the teachers thought and went about their teaching. The variation in this way of thinking and acting between Point A and Point B represents the development that has taken place. However, as the model aims to illustrate the developmental process and influences from a single teaching encounter, such as a formal timetabled session, one to one tutorial or an informal conversation with a student, there is unlikely to be a significant shift in the teacher's way of seeing teaching for every encounter. Rather, it may be represented by some more minor change in knowledge or confidence, which may alter the way in which the individual interacts with the students on the next occasion. Such changes have already been alluded to in the first section of this chapter.

The following section aims to illustrate the longer-term development that the teachers described in the interviews over the two year period. In considering this type of more protracted development, the model can be viewed as a spiral with

multiple iterations through the model. It seeks to represent the phenomenon of repeated, mini developmental cycles taking place. It is also important to stress that each new model will be different to the previous and the next in terms of contextual variation, the approach to teaching that the teacher brings to the situation and other previous similar teaching or learning experiences (Figure 6.1).

Due to the nature of the semi-structured interview questions in the current investigation, which encouraged the participants to reflect upon their day-to-day experiences of being a teacher, the majority of the descriptions allowed for analysis of the approaches to teaching rather than their overarching conceptions of teaching. In a similar way to previous research (Trigwell *et al.*, 1994), when the participants in the current investigation described their approach, it often contained a strategic element and an intentional element. However, it was not always possible to identify the intention for a particular strategy. There are two possible explanations for this lack of clarity in intention. Firstly, when describing a particular teaching instance, the strategy used was an integral part of the description and therefore this element of approach could be identified by default. Nevertheless, the intention for this strategy did not need to be stated in order that the description of the teaching instance made sense. As a result, unless the participants were specifically probed, the intention did not always become clear. The second possible reason for intention not always being explicit in the descriptions is that, as new teachers, they did not always have a clear intention for the session that they could articulate.

The following section will focus upon how the participants' approach to teaching appeared to evolve over the course of the interviews. The first part will consider the challenges of developing strategies that more actively involved the students. The second part will discuss changes in the participants' descriptions of their intention for teaching.

### Development of strategies which more actively involve the students

Although the teachers appeared to be aware of strategies that more actively involved the students from the outset, a major aspect of the evolution in their approach to

teaching was how they could go about integrating these strategies into their teaching in the most effective ways in different contexts. Despite this increase in student involvement, the strategies still appeared to maintain a relatively high level of teacher control in the majority of participants. Often the descriptions contained similar characteristics to that of *student-directed* approach (Van Driel *et al.*, 1997). A possible reason for these strategies, which actively involved the students, while ensuring that they maintained control, may have been due to the difficulties the teachers described in getting to grips with this way of teaching and the new challenges that it brought. Therefore the teachers often described the use of blended strategies in their teaching, not only from one day to the next in different sessions, but also at different times in the same session.

Much of the existing literature holds the view that the strategy an individual uses is dependent upon their intention and associated conception of teaching (Trigwell *et al.*, 1994). Nevertheless, as conceptions are considered as being relatively stable, any variation in approach has broadly been put down to relational aspects such as: the situation; how this situation is perceived; and the teacher's prior experience (Trigwell and Prosser, 1997). In attempting to provide an understanding of individual acts of teaching, Trigwell and Prosser offer a rather abstract structure that does not seem to capture the specific issues that may encourage the same teacher to teach differently in a different situation. The analysis of the data from the present investigation, however, has identified a number of factors affecting the way an individual taught, which were heavily contextualised. These contextual issues often appeared to provide the teachers with challenges for how they went about using strategies that more actively involved the students.

By their very nature, the contextual factors which influenced the strategy an individual took to teaching differed between individuals. Despite this, there were three factors which appeared to impact upon teaching approach in a high proportion of the participants. These included: *time* that they had to complete a topic or module; an increased concern for *group management and student conduct*; and the *subject or topic* being taught. With the emergence of a school of thought that teacher

development should aim to change individuals' conceptions of teaching (Ho *et al.*, 2001), the increased skills required to create more open, interactive learning environments seem to have been moved into the background. The majority of participants in the current study were battling with the practical issues of using more active teaching strategies. Often when a participant was aware of strategies to involve the students they would describe situations where they decided not to, due to the perception that it took far longer to teach a particular topic this way and they would not finish the module. In addition, about half of the participants in the current investigation reported greater problems with group management and student conduct when attempting to use approaches that more actively involved the students.

These types of difficulties that new teachers face might explain why, in the study by Postareff *et al.* (2007), there was only a significantly higher score on conceptual change, student-focussed approach to teaching after a full year of pedagogical training and that any shorter programmes seemed to create a feeling of uncertainty in the teachers. This lack of resolution over strategies may also be a possible explanation for the phenomenon of dissonance (i.e. a conceptual change, teacher-focussed and information transmission, student-focussed approach being illogically related to one another) in previous inventory-based research. Using the ATI, Prosser *et al.* (2003) found a greater proportion of high positive loadings on both the CCSF and ITTF scales for less experienced tutors and demonstrators compared with the more senior tutors. It may be that these less experienced teachers in Prosser's research were aware of student-focussed strategies and yet utilised a high proportion of teacher-focussed strategies due to some of the practical challenges described by the new teachers in the current investigation. Therefore, completing the ATI with a lack of resolution over the most appropriate strategy from a practical point of view compared to conceptually may have prompted the participants in the Prosser study to respond to items on the same scale from different perspectives, meaning that the scales appeared to be related to one another. Although it is not possible to substantiate this from the current data, it acts as a tentative finding that requires further investigation.



There has been an indication in the recent literature that the subject area being taught is related to variations in the approach taken (Lindblom-Ylänne *et al.*, 2006).

Lindblom-Ylänne and colleagues demonstrated that teachers from ‘hard’ disciplines were more likely to report teacher-focussed approaches and those in ‘soft’ disciplines were more student-focussed. However, in the data from the current study, there is a suggestion that the particular topic within the discipline that was being taught often took precedence over the broader disciplinary context. The importance of the topic upon the approach to teaching was shown in many different situations in the current investigation. For example, in the case study of Alice, there was a strong theme of different topics lending themselves to different ways of teaching. In particular, the topic of ‘statistics’ tended to be described from a delivery of information point of view, whereas when the topic was ‘observational methods’ the students were more actively involved by drawing out the key concepts themselves from a piece of video.

Tom, a lecturer in Sports Science, provides a similar example. Much of his teaching was to large groups where he would spend the session delivering information on a specific aspect of physiology or biochemistry. However, in other situations, for example when the group were considering training programme design, he designed small group activities, which encouraged the students to apply the concepts in a more active way. These types of situations have been suggested in previous work. Martin *et al.* (2000) found that teachers, who saw the *object of study* (or topic) in terms of the knowledge being relatively fixed, tended to use more teacher-focussed approaches. Whereas those who considered the object of study as something that was constructed by the students adopted more student-focussed strategies.

### Change in the teachers' intentions for teaching

Although on the face of it there would appear to have been a limited shift in the strategies the teachers used, there was an indication of more subtle development in terms of getting to grips with and adapting strategies so that they were appropriate for use in particular situations. Despite holding a relatively broad awareness of different teaching strategies, the current literature on teaching in higher education would not consider this in itself as being a particularly important marker of teacher

development. A key conclusion from the study by Trigwell and Prosser (1996b) was that academic development that aims to improve teaching strategies is unlikely to be successful without a concern for the associated intentions for the strategy. In the current investigation there was evidence of a development in the intention for particular strategies and this provides the second main form of evolution in the teachers' approach.

As time progressed the teachers from the current investigation seemed to hold a greater awareness of what it was they were trying to achieve. This enhanced awareness appeared in terms of a focus upon student learning, the aims of a particular session or how their module or topic fitted with the students' programme as a whole. In trying to compare the findings on evolution of strategies and intentions of teaching from the current longitudinal investigation with the single-point, inventory-based study that considered the link between teaching strategy and intention by Trigwell and Prosser (1996b), there are a number of points of contention. Firstly, although there was a shift in intentions with the new teachers, rarely did they report the purpose of a session as fitting neatly within the information-transmission or conceptual-change intention categories. Initially many of the teachers were preoccupied with simply 'getting through the session' or 'keeping the students occupied'. This type of intention did tend to develop towards a greater focus upon helping the students acquire or develop the concepts themselves. Interestingly, the concept-acquisition and conceptual-development intentions were originally included on the ATI in the Trigwell and Prosser study but then later rejected due to problems of reliability. The current investigation would suggest that this increased focus on the student, but not necessarily in relation to achieving conceptual change at this stage, provided an important point of reference for the new teachers after a quite insecure period with regards to what it was they were trying to achieve.

In addition, there was not always clear congruence in the descriptions from the teachers in the current study between intention and strategy, as suggested by Trigwell and Prosser (1996b). The use of different strategies seemed to help in the refinement

of intentions, rather than the intentions being related to, or precursors for the strategies.

A good example of this came from Karen who described the use of more student activities in her sessions. Initially, it appeared that the purpose of the activities was to 'keep them occupied and entertained'. However, as she used these types of strategies, she developed her view of the underlying purpose of these student activities. Karen started to gain an awareness that if the students enjoyed it more they tended to 'respond better'. This realisation eventually led on to her seeing these tasks as encouraging the students to engage and interact. What was less apparent here in terms of development was a logical relationship between the strategies used and the intentions for these strategies as identified by Trigwell and Prosser (1996b). Such a suggestion is not dissimilar to the concept of development of *craft knowledge* in teaching (Van Driel *et al.*, 1997). Craft knowledge is considered as being the integration of knowledge, conceptions, beliefs and values, which is deeply rooted in and mainly derived from teachers' practical work. In the same way as the data from the current investigation, this definition acknowledges the complex and context-specific nature of teaching. What the current investigation points to is that it was having *knowledge* of the strategy and then the *experience* of using this strategy that appeared critical in developing the teachers' intentions for teaching in more student- and learning-orientated directions.

## **Individual variation in teacher development**

A key argument that has been made throughout this thesis is that the level of focussing of the analysis in the current investigation is quite different to the more traditional phenomenographic investigations, which consider conceptions and approaches to teaching. Although the creation of categories of description helps to identify the main variation in approach to teaching, it cannot fully capture the more idiosyncratic aspects of teaching and developing as a teacher. It has been an aim of the current investigation to provide these more contextualised accounts throughout. However, this sub-section will focus upon some of the more distinctive aspects that

have been found in relation to teacher development, which are specific to individuals.

### Challenges of a 'sophisticated' conception of teaching

The case study of Kate in Chapter 4 provided an insight into a conception of teaching that could be characterised as student-centred, learning oriented as identified by Kember (1997). The conception of teaching literature tends to describe such a view of teaching as being *desirable* (McKenzie, 1996), *complete* (Prosser and Trigwell, 1999) and *sophisticated* (Entwistle and Walker, 2000), but also as the outcome of effective staff development programmes (Ho *et al.*, 2001 and Light and Calkins, 2008). Although there has been extensive research into the nature and characteristics of this type of conception of teaching, less attention has been paid to what it is like to be a teacher who holds this type of conception and the associated developmental issues. With their retrospective account of a single teacher, Entwistle and Walker (2000) provided a unique view of a teacher developing a sophisticated conception. However the longitudinal method of the present study provides more immediate reflection from the participant with less likelihood of it being clouded or influenced by the passage of time. In addition, Kate's experience is novel in that it gives an insight into the challenges that she encountered despite holding what could be considered as a 'sophisticated' conception of teaching from the outset.

Despite Kate's relatively well developed conception of teaching and extensive content knowledge, the description of her lived experience of teaching was often far from being 'desirable', 'complete' or 'sophisticated'. She was constantly battling with how best to teach and was unresolved about how she could get the students to 'think like historians'. There is a clear echo here of McLean and Bullard's (2000) findings that novice teachers often held student-centred, learning orientated conceptions of teaching, but, due to inexperience and local contextual issues, they often struggled to put this way of thinking into practice. Kate described extensive experimentation with different strategies, which may have been an attempt to bridge her well developed conception of teaching and extensive content knowledge, through the development of her pedagogical content knowledge (Shulman, 1987). This type

of situation can be seen in Entwistle and Walker's description below of what a sophisticated conception of teaching requires. The words in italics are to emphasise the aspect of a sophisticated conception of teaching that Kate appeared to be coming to terms with.

A sophisticated conception of teaching stems from the teacher's own deep understanding of the subject, but depends on much more. It requires *an act of imagination through which the teacher first envisages the subject from the students' perspective, and then devises ways of helping the students across the initial gulf of incomprehension* which separates them from the discourse of the discipline or profession (Entwistle and Walker, 2000, p343. Emphasis added)

This in-depth analysis of Kate's experience provides an insight into the difficulties that a new teacher can face even when they appear to have a deep understanding of the subject and a sophisticated conception of teaching. It would appear that teachers such as Kate require support with 'devising ways to help students across the gulf of incomprehension' or in other words identifying a range of strategies that can potentially align with their conception of teaching. Previous research, in an abstract way, has suggested a congruent relationship between conception, intention and strategy (Trigwell and Prosser, 1996a and 1996b). However such research is limited in acknowledging the real difficulties that a teacher may face in aligning these aspects of teaching.

### Moral issues within teacher development

Another insight into teaching that the current investigation provides came from the case study of Claire. At a number of points throughout the interviews she described a concern for not intimidating or embarrassing students through her teaching. Such a concern appeared as a key aspect of her approach to teaching and was also evident in terms of how she developed as a teacher. For example, although she used a number of approaches which actively involved the students, these were often quite heavily controlled. This level of control may have been an attempt to provide a 'safe-learning environment' for the students, which was something that she also described. Although such moral issues have not emerged from the traditional conceptions of teaching research, there are some investigations that have hinted towards this aspect of teaching. For example, Fitzmaurice (2008) referred to the morals within teaching

and the role of teachers' values. Two of these values identified by Fitzmaurice can be likened to Claire's concerns for the student: a desire to create space for learning and encourage student voice through enabling and encouraging the students to question; and caring for the students and developing the whole person. This second theme draws attention to issues such as respect, trust, fairness and integrity. The case study from Claire indicates that these types of aspects are also critical for her as a new teacher and that the way in which she went about trying to achieve this was through the creation of a friendly, supportive and safe learning environment.

### Teacher identities

The final idiosyncratic issue to be discussed, which emerged from Alice's case study, was the importance of her role or position within the department for how she taught and developed as a teacher. This type of description broadly echoes some of the concepts outlined in the previous literature of teacher identity (Nixon, 1996) and the concept of academic communities of practice (Wenger, 1998). Research in these broad domains has considered how academics perceive themselves within their disciplinary communities (Henkel, 2000 and Becher and Trowler, 2001). However, these researchers have tended to focus upon variation in identity between different individuals in different disciplinary contexts or the same individual in different communities of practice. What appears to be less apparent in the research is the tracking of an individual within the same community of practice as their role evolves and their identity shifts. Some of Alice's descriptions, which are grounded in the complexities of her day to day experiences over a prolonged period of time, provided a preliminary glimpse of this.

As Alice moved from her original role as a technician to becoming a full-time, permanent lecturer she described a significant shift in her identity, in the form of a change in her perception of the relationship with the students. Alice's perception of the relationship with students was that, as a technician and having only graduated a year earlier, she felt that she was almost still a student herself. Therefore she described feeling as though she was 'one of them' and more of a friend. Such a relationship with the students seemed to lead to her valuing impromptu meetings

with them and seeing this as a key dimension to her role. After gaining a full-time lecturing position she described a reduction in the use of the impromptu conversations with students as she felt it was necessary to provide a more appropriate level of support in her new role. Again, this provides a specific example of the challenges faced in developing as a teacher, particularly in terms of their changing role, identity and associated relationship with the student.

Alongside this change in Alice's perception of her relationship with the students, it is also important to be aware of a change in other aspects of the teaching environment. An investigation that provides some insight into the link between perception of the teaching environment and approach to teaching was conducted by Prosser and Trigwell (1997). In their investigation, Prosser and Trigwell used an inventory to identify the relationship between perceptions of the teaching environment and approaches to teaching. They found that a student-focussed approach to teaching was associated with teachers' perception that they had control over what was taught and how it was taught, that the department valued teaching and that class sizes were not too large. As a technician, Alice explicitly referred to a lack of control over what was taught and this seemed to occur alongside descriptions of more teacher-focussed approaches. However, to counter this, the department within which she worked appeared to value teaching and the class sizes were not too large. Therefore it would seem that Prosser and Trigwell's initial consideration of the relationship between the perception of the teaching environment and an individual's approach to teaching may be extended. Identity and the perceived relationship with the students are additional factors that appear to contribute to an individual's perception of the teaching environment, and therefore are likely to influence their approach to teaching. These issues of identity and perception of the teaching environment are key factors in the investigation of new teachers, as there is a high probability that there will be changes in both in the early stages of a teaching career in higher education.

## **Implications**

At a number of points, the discussion above has made brief reference to, or implicitly suggested, a number of implications from the findings of the current study. The

following section will make these implications explicit and discuss them in more detail. Initially these implications will be made in terms of teacher development and training of teachers in higher education, and this will then lead into some of the methodological implications that have emerged from the approach taken in the current investigation.

In general, current teacher development in higher education appears to focus on the main objectives of initiating conceptual change towards more learning-centred approaches to teaching and encouraging an ethos of reflective practice. However, as identified in the review of literature, studies that have assessed the effectiveness of such programmes have reported moderate success (Ho *et al.*, 2001; Gibbs and Coffey, 2004; Postareff *et al.*, 2007; and Light and Calkins, 2008). Despite this, other investigations have shown the importance of student-focussed approaches to teaching for the quality of student learning (Trigwell *et al.*, 1999), and the value of reflection in a group of exemplarily teachers (McAlpine and Weston, 2000). Therefore, although the evidence-base for such programmes is not compelling or the precise nature of these programmes clear, the majority of authors acknowledge conceptual change and reflective practice as worthwhile aims. Some of the findings from the current investigation help to support these broad aims by highlighting a number of specific aspects that teacher development programmes might take into account in order to increase their efficacy.

The first implication is that teacher development programmes need to acknowledge better and utilise instances of interaction with students as being a potent influence for changing the way an individual comes to see teaching. Such instances provide access to a type of incidental feedback that can be critical in shaping teachers' thinking. Therefore it is important that these instances are captured and embedded into the conversations with teachers about their teaching, as they provide highly specific and tangible contexts upon which to discuss the conceptual aspects of teaching. The longitudinal interviews, used in the current study, themselves provide one such way of enabling the participants to talk about instances where they interacted with students and make their thinking more explicit. This type of situation



is similar to the suggestion by Kane *et al.* (2004), who investigated the reflective practice of a group of excellent teachers. They suggested that the methods used, such as interviews, stimulated recall and repertory grids, provide a way forward for assisting the development of less experienced teachers.

A second implication for teacher development programmes is that, alongside the strong emphasis upon approaches that more actively involve the students, it is also important to recognise the types of factors which influence new teachers' ability or willingness to adopt such an approach. In particular, development needs to be sensitive to, and supportive of, the confidence and perceived content knowledge of individuals. Linked to this, there is also a need to offer more support on developing pedagogical knowledge that is specific to the challenges that an individual may face when attempting to increase the level of interaction with students in particular contexts and subject disciplines. In other words, there is a need to facilitate a culture within subject peer groups where *moments of specific advice* are more likely to occur. Such a suggestion supports indications in the literature of the importance of a discipline-based approach to teaching development in higher education (Healey, 2000). However, more research which specifically looks at the role of the subject peer group and how it influences an individual's development is warranted.

The final implication for development programmes, which also starts to overlap with some of the methodological implications of the investigation, is that there is an argument for a more protracted and intermittent approach to teacher development. At present, the normal design is a year long programme that occurs within the individual's first year of teaching. However, the longitudinal design of the current study provided an insight into the early stages of teaching as being an important point of reference for future developments. Once the teachers started to repeat sessions and become familiar with the topics they were teaching, it had a number of outcomes. Firstly, the time pressure was reduced as they already had the outline of the session in place. Therefore a programme which had a reduced commitment in the first year of teaching and was then spread over a number of subsequent years is likely to be welcomed by new teachers in terms of workload. Secondly, when the

teachers were repeating sessions, they started to adapt their practice, based upon their previous experience. It would therefore seem sensible to suggest that at this time the teachers are likely to have a number of questions and require support in creating their 'corridors of tolerance' (McAlpine *et al.*, 1999). Again a more prolonged development programme that overlaps with this critical time may be valued by new teachers. In order to confirm this, but also to identify a sensible time-frame for a development programme, a five-year follow-up with the participants from the current investigation may prove fruitful.

The only other investigations to have used a longitudinal approach to investigate development of teaching in higher education are Martin and Ramsden (1992) and McKenzie (2003). Some of the insights that have come out of these studies and the current investigation could only have been captured using this approach. For example, the current study provided an insight into how the approach to teaching evolved over time for the new teachers. Also the concept of *familiarity* with teaching was a by-product of interviewing the same individuals at the same time in the subsequent academic year. Longitudinal design must therefore be inherent within research that aims to investigate teacher development, as a single data collection point will not be able to adequately capture the prolonged and evolving nature of the process. However there are obvious logistical problems with longitudinal investigations such as an increase in time between starting the research and developing the findings, and a concern for participant drop-out over the data collection period. These reasons, particularly the first, may explain why there is a paucity of literature that has investigated teacher development in higher education using a longitudinal design.

In addition to the longitudinal design being critical for investigating the phenomenon of development there were also a number of other benefits, particularly for this form of qualitative interview-based enquiry, that were not originally envisaged. The multiple sample points with the same participant helped in building a stronger case for trustworthiness of the data, which is a critical premise of qualitative enquiry (Lincoln and Guba, 1985). Firstly, it allowed for the development of good rapport

between the researcher and participants, which may have provided more honest reflections than from a single point interview. Secondly, in the course of the interviews the participants would often describe the same instance but from different perspectives. These descriptions from a dual perspective allowed for checking the legitimacy of some instances and led to a decision to either reinforce or place less emphasis on particular situations. Therefore it could be argued that longitudinal data collection acts as a valuable quality check of data collected in interview based investigations.

The final methodological implication from the current investigation was the use of fine-grained analysis from case studies to build more general theory. This form of analysis was developed from Eisenhardt (2002) who suggested that such an analysis was 'most appropriate in the early stages of research or to provide freshness in perspective to an already researched topic' (p31). Depending upon perspective, it could be argued that the current investigation is either of these things. Due to the limited longitudinal, empirical data on teacher development in higher education, it could be considered that this is an investigation that represents the early stages of an area of research and therefore this form of analysis helps to map the territory somewhat. Such a suggestion would be particularly warranted in terms of investigations into the *influences* upon development. However, if this study is considered in the light of the literature on conceptions of teaching, the case-study approach to analysis can be justified as providing freshness to a previously researched topic. An example where this form of analysis has provided a different insight into the conceptions of teaching than previous research is in relation to the *challenges* that participants faced in developing approaches which more actively involved the students. Therefore there is a need to advocate the use of such fine-grained analysis for research into teacher development in higher education. In a proposal for a collaborative research programme to identify the impact of initial training on university teaching, Gilbert and Gibbs (1998) identified five tools to support the evaluation of teacher training programmes. Four of these were inventory-based and the fifth was structured interviews using a standardised interview schedule. The current investigation would recommend the use of more

open research tools for exploring development than the inventory-based and structured interview research programme proposed by Gilbert and Gibbs. Inventories are likely to be limited in their ability to enable the researcher to monitor the very specific, ever-changing and day-to-day concerns that new teachers undergoing initial training have been shown to encounter. In a similar way, a fully structured interview schedule may not be flexible enough to allow the researcher to explore the idiosyncratic issues that new teachers describe in relation to their development or adapt them in the light of the preceding interview.

## Conclusion

Although a number of new insights into teacher development in higher education have been provided by the current investigation, it is also necessary to acknowledge the potential limitations of these findings. The first of these limitations relates to the size of the sample used. Due to the need for repeated interviews with individuals the number of participants had to be kept relatively small. As a consequence of the small sample the range of subject disciplines and institutions was also limited. Despite this limitation the contextual aspects of teacher development were identified as an important theme in the current study, suggesting that contextual influences would remain regardless of the number of participants, subjects and institutions sampled. A second limitation is the extent to which development of the teachers in the current study may have been moulded by participation in the research process. It is likely that their involvement in the study acted as a subtle influence upon development, as it encouraged a level of reflection by the participants on their teaching that may not have otherwise occurred.

Despite these potential limitations and an associated need for caution the novel findings of the current investigation predominantly came out of the theme; *influences upon teacher development*. What emerged from this theme was the critical influence of *interactions with students* for development. The feedback that *instances of interaction with students* provided the participants with, about their teaching, often appeared to create *portals* for their development as teachers. However, the nature and level of interactions with students had a strong relationship with a number of

other influences. These included: *confidence*; *experience* or *familiarity* with teaching; *knowledge*; and *advice from colleagues*. Familiarity with the teaching situation appeared to support the teachers' knowledge and this enhanced their confidence, which often resulted in them opting to use more interactive approaches to teaching. The final influence upon development that the teachers described in relation to supporting their development was *moments of specific advice* from colleagues. This influence was related to supporting the new teachers to interact with a specific group, in a particular room and for a given topic.

What also emerged from the data in the current investigation was an insight into the challenges that the new teachers encountered when they started to develop approaches which more actively involved the students. These included factors such as the amount of contact *time* with which they had to teach their subject, an increase in issues of *group management and student conduct* and also identifying *topics* which lent themselves to more actively involving the students. In addition, the fine-grained analysis took account of the idiosyncratic issues of teaching and the importance of these for development. For Claire this was a concern for the moral issues of more actively involving students in that it could promote feelings of exposure and embarrassment on the part of the students. For another teacher, Alice, it was an awareness of her changing relationship with the students as her role within the department had changed.

In order to try and capture the majority of these issues the chapter started by providing a model to illustrate the influences upon teachers' development in higher education (Figure 6.1). The aim is that this model and the implications outlined at the end of this chapter will help to inform individuals responsible for teacher development and those responsible for supporting the professional development of new academics in higher education. A greater understanding of what new teachers are encountering on a day to day basis will hopefully allow us to better support the transition of such individuals into a complex aspect of their profession.

## References

- Åkerlind, G. (2003). Growing and developing as a University Teacher – Variation in Meaning. *Studies in Higher Education*, 28, 375-390.
- Åkerlind, G. S. (2004). A new dimension to understanding university teaching. *Teaching in Higher Education*, 9, 363-376.
- Åkerlind, G. (2006) Variation and commonality in phenomenographic research methods. *Higher Education Research & Development*, 24, 321–334.
- Åkerlind, G. S. (2007). Constraints on academics' potential for developing as a teacher. *Studies in Higher Education*, 32, 21-37.
- Argyris, C. and Schön, D. A. (1974). *Theory in practice: increasing professional effectiveness*. San Francisco, Jossey-Bass.
- Ashworth, P. and Lucas, U. (1998) What is the 'world' of phenomenography?. *Scandinavian Journal of Educational Research*, 42, 415-431.
- Barkenhuizen, G. (2002). Beginning to lecture at university: A complex web of socialization patterns. *Higher Education Research and Development*, 21, 93-109.
- Bassey, M. (1999). *Case Study Research in Educational Settings*. Buckingham, Open University Press.
- Baume, C. and Baume, D. (1996). A National Scheme to Develop and Accredite University Teachers'. *International Journal for Academic Development*, 1, 51-58.
- Becher, T. and Trowler, P.R. (2001) *Academic Tribes and Territories*, 2<sup>nd</sup> Edition, Buckingham: Society for Research into Higher Education & Open University Press.
- Bennett, N., Dunne, E. and Carre, C. (2000). *Skills development in higher education and employment*. Buckingham, SRHE and Open University Press.
- Biggs, J. (1989). Approaches to the enhancement of tertiary teaching. *Higher Education Research and Development*, 8, 7-25.
- Biggs, J. (1999). *Teaching for Quality Learning at University*. The Society for Research into Higher Education and Open University Press.
- Boice, R. (1991). New Faculty as Teachers. *Journal of Higher Education*, 62, 150-173.

- Boud, D., Keogh, R. and Walker, D. (1985). Promoting reflection in learning: a model. In Boud, D., Keogh, R. and Walker, D (Eds.) *Reflection: turning experience into learning*. London, Kogan Page.
- Carnell, E. (2007). Conceptions of effective teaching in higher education: extending the boundaries. *Teaching in Higher Education*, 12, 25-40.
- Cheetham, G. and Chivers, G. (2005). *Professions, Competence and Informal Learning*. Cheltenham, Edward Elgar.
- Clarke, G., Blumhof, J., Healey, M., Gravestock, P., Jenkins, A., Honeybone, A., Wareham, T., King, H., Chalkley, B. and Thomas, N. (2002). Developing new lecturers. The case of a discipline –based workshop. *Active Learning in Higher Education*, 3, 128-144.
- Clegg, S., Tan, J. and Saeidi, S. (2002). Reflecting or acting? Reflective practice and continuing professional development in higher education. *Reflective Practice*, 3, 131-146.
- DfES (2003). The future of Higher Education. White Paper.
- Dall’Alba, G. (1991). Foreshadowing conceptions of teaching. *Research and Development in Higher Education*, 13, 293-297.
- Denzin, N. K. (1978). *The Research Act: A Theoretical Introduction to Sociological Methods*. NY, McGraw-Hill.
- Devlin, M. (2003). A solution-focused model for improving individual university teaching. *International Journal for Academic Development*, 8, 77-89.
- Devlin, M. (2006). Challenging accepted wisdom about the place of conceptions of teaching in university teaching improvement. *International Journal of Teaching and Learning in Higher Education*, 18, 112-119.
- Dewey, J. (1933). *How We Think: A restatement of the relation of reflective thinking to the educative process*. Boston, Heath.
- Dreyfus, H. L. and Dreyfus, S.E. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. Oxford, Basil Blackwell.
- Dunkin, M. J. (1990). The induction of academic staff to a university: Process and products. *Higher Education*, 20, 47-66.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14, 532-559.

- Eisenhardt, K. M. (2002). Building theories from case study research. In Huberman, M. A. and Miles, M. B. (2002). *The qualitative researcher's companion*. London, Sage.
- Eley, M. (2006). Teachers' conceptions of teaching, and the making of specific decisions in planning to teach. *Higher Education*, 51, 191-214.
- Entwistle, N. (1997). Introduction: Phenomenography in higher education. *Higher Education Research and Development*, 16, 127-134.
- Entwistle, N. (2003). Concepts and conceptual framework underpinning the ETL project. Occasional Report 3, ETL Project.
- Entwistle, N. J., McCune, V. and Walker, P. (2001). Conceptions, styles and approaches within higher education: analytic abstractions and everyday experience. In Sternberg, R. J. and Zhang, L.-F (Eds). *Perspectives on Cognitive, Learning, and Thinking Styles* NJ, Lawrence Erlbaum.
- Entwistle, N., Skinner, D., Entwistle, D. and Orr, S. (2000). Conceptions and beliefs about 'Good teaching': an integration of contrasting research areas. *Higher Education Research and Development*, 19, 5-26.
- Entwistle, N. and Walker, P (2000). Strategic alertness and expanded awareness within sophisticated conceptions of teaching. *Instructional Science*, 28, 335-361.
- Eraut, M. (1994). *Developing professional knowledge and competence*. London, Falmer.
- Eraut, M, (1995). Schön Shock: a case for reframing reflection-in-action? *Teachers and Teaching: theory and practice*, 1, 9-22.
- Eraut, M. (2000). Non-formal learning and tacit knowledge in professional work. *British Journal of Educational Psychology*, 70, 113-136.
- Fitzmaurice, M. (2008). Voices from within: teaching in higher education as a moral practice. *Teaching in Higher Education*, 13, 341-352.
- Fuller, F. (1970). *Personalized education for teachers: An introduction for teacher educators*. Austin: R & D Center for Teacher Education, University of Texas.
- Gibbs, G. (1999). *Teaching in Higher Education: theory and evidence. Chapter 9 How Teachers Learn and Develop*. Centre for Higher Education Practice. The Open University.
- Gibbs, G. and Coffey, M. (2004). The impact of training university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active Learning in Higher Education*, 5, 87-100.



- Gilbert A. and Gibbs, G. (1998). A proposal for a collaborative international research programme to identify the impact of initial training on university teaching. *Paper presented at HERDSA Conference on Transformation in Higher Education*. Auckland, New Zealand.
- Glaser, B. G. and Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research*. Chicago, Illinois, Aldine.
- Gordon, S., Petocz, P. and Reid, A. (2007). Teachers' conceptions of teaching service statistics courses. *International Journal for the scholarship of Teaching and Learning*, 1, 1.
- Hasselgren, B. and Beach, D. (1997). Phenomenography-“a good for nothing brother” of phenomenology?. *Higher Education Research and Development*, 16, 191-202.
- Hativa, N. (1998). Lack of clarity in university teaching: A case study. *Higher Education*, 36, 353-381.
- Hativa, N. (2000). Becoming a better teacher: A case of changing the pedagogical knowledge and beliefs of law professors. *Instructional Science*, 28, 491-523.
- Hativa, N., Barak, R. and Simhi, E. (2001). Exemplary university teachers: knowledge and beliefs regarding effective teaching dimensions and strategies. *The Journal of Higher Education*, 72, 699-729.
- Healey, M. (2000). Developing the scholarship of teaching in higher education: a discipline-based approach. *Higher Education Research and Development*, 19, 167-187.
- Henkel, M. (2000). *Academic Identities. Policy Change in Higher Education*, London and Philadelphia: Jessica Kingsley Publishers.
- Hitchcock, G. and Hughes, D. (1995). *Research and the Teacher. A Qualitative Introduction to School-based Research (2<sup>nd</sup> Edition)*. London, Routledge.
- Ho, A. S. P., Watkins, D. and Kelly, M. (2001). The conceptual change approach to improving teaching and learning. *Higher Education*, 42, 143-169.
- Hounsell, D. (in press, January 2008). Evaluating Courses and Teaching. In Fry, H., Ketteridge, S. and Marshall S., Eds. *A Handbook for Teaching and Learning in Higher Education: Enhancing Academic Practice*. 3rd Edition. London: Routledge.
- Houston, W.R. and Clift, R.T. (1990). The potential for research contributing to reflective practice. In Clift, R.T., Houston, W.R. and Pugach, M.C. (Eds.) *Encouraging Reflective Practice in Education*. New York, Teachers College Press.

- Huberman, M. A. and Miles, M. B. (2002). *The qualitative researcher's companion*. Sage London.
- Kane, R., Sandretto, S. and Heath, C. (2002). Telling half the story: A critical review of research on the teaching beliefs and practices of university academics. *Review of Educational Research*, 72, 177-228.
- Kane, R., Sandretto, S. and Heath, C. (2004). An investigation into excellent tertiary teaching: Emphasising reflective practice. *Higher Education*, 47, 283–310.
- Kanuka, H. and Anderson, T. (1999). Using constructivism in technology-mediated learning: constructing order out of the chaos in the literature. *Radical Pedagogy*. Available online at:  
[http://radicalpedagogy.icapp.org/content/vol1.1999/issue2/02kanukal\\_2.html](http://radicalpedagogy.icapp.org/content/vol1.1999/issue2/02kanukal_2.html)  
 (accessed 27 January 2004).
- Kember, D. and Gow, L. (1994). Orientations to teaching and their effect on the quality of student learning. *Journal of Higher Education*, 65, 58-74.
- Kember, D. and Kwan, K-P. (2000). Lecturers' approaches to teaching and their relationship to conceptions of good teaching. *Instructional Science*, 28, 469-490.
- Kember, D. (1997). A reconceptualisation of the research into university academics' conceptions of teaching. *Learning and Instruction*, 7, 255-275.
- Kember, D. and Gow, L. (1994). Orientations to teaching and their effect of the quality of student learning. *Journal of Higher Education*, 65, 58-74.
- Knight, P., Tait, J. and Yorke, M. (2006). The professional learning of teachers in higher education. *Studies in Higher Education*, 31, 319-339.
- Kugel, P. (1993). How professors develop as teachers. *Studies in Higher Education*, 18, 315-328.
- Light, A. and Calkins, S. (2008). The experience of faculty development: patterns of variation in conceptions of teaching. *International Journal for Academic Development*, 13, 27-40.
- Lincoln, Y. S. and Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park, CA, Sage.
- Lindblom-Ylänne, S., Trigwell, K., Nevgi, A. and Ashwin, P. (2006). How approaches to teaching are affected by disciplinary and teaching context. *Studies in Higher Education*, 31, 285-298.
- McAlpine, L. and Weston, C. (2000). Reflection: Issues related to improving professors' teaching and students' learning. *Instructional Science*, 28, 363–385.

- McAlpine, L., Weston, C., Beauchamp, J., Wiseman, C. and Beauchamp, C. (1999). Building a metacognitive model of reflection. *Higher Education*, 37, 105–131.
- McCune, V. and Hounsell, D. (2005). The development of students' ways of thinking and practising in three final-year biology courses. *Higher Education*, 49, 255–289.
- McKenzie, J. (1996). Changes in university teachers' conceptions of teaching. *Research and Development in Higher Education*, 19, 970–974.
- McKenzie, J. (1999). Changing teachers' ways of experiencing teaching and ways of experiencing teaching change: how do they relate and what are the implications? HERDSA Annual International Conference, Melbourne, 12–15 July 1999.
- McKenzie, J. (2002) Variation and relevance structures for university teachers' learning: Bringing about change in ways of experiencing teaching, research and development. *Higher Education Research and Development*, 234–241.
- McKenzie, J. (2003). *Variation and change in university teachers' ways of experiencing teaching*. Unpublished doctoral thesis, University of Technology, Sydney.
- McKenzie, J. and Scott, G. (1993). Teaching matters: Making a video on teaching in higher education. *Research and development in higher education*, 16, 419–424.
- McLean, M. and Bullard, J. (2000). Becoming a university teacher: evidence from teaching portfolios (how academics learn to teach). *Teacher Development*, 4, 79–101.
- Martin, E. and Balla, M. (1991). Conceptions of teaching and implications for learning. *Research and Development in Higher Education*, 13, 298–304.
- Martin, E. and Lueckenhausen, G. (2005). How university teaching changes teachers: Affective as well as cognitive challenges. *Higher Education*, 49, 389–412.
- Martin, E., Prosser, M., Trigwell, K., Ramsden, P. and Benjamin, J. (2000). What university teachers teach and how they teach it. *Instructional Science*, 28, 387–412.
- Martin, E. and Ramsden, P. (1992). An expanding awareness: how lecturers change their understanding of teaching. *Research and Development in Higher Education*, 15, 148–155.
- Marton, F. (1995). Cognosco ergo sum. Reflection on reflections. *Nordisk Pedagogik*, 15, 165–180.

- Marton, F. and Booth, S. (1997). *Learning and awareness*. Mahwah, NJ:Lawrence Erlbaum Associates.
- Marton, F. and Dahlgren, L.O. (1976). On non-verbatim learning III: The outcome space of some basic concepts in Economics. *Scandinavian Journal of Psychology*, 17, 49-55.
- Marton, F. & Säljö, R. (1976). On qualitative differences in learning: I - outcome and process. *British Journal of Educational Psychology*, 46, 4-11.
- Meyer, D. G. (1996). *Social psychology* (4<sup>th</sup> Ed.). New York, McGraw-Hill.
- Meyer, J. H. F. and Eley, M. G. (2003) A factor analysis of the Approaches to Teaching Inventory. *EARLI 2003 Symposium paper*, Italy.
- Miles, M.B. and Huberman, A.M, (1994). *Qualitative Data Analysis* (2<sup>nd</sup> Edition). London, Sage.
- Mishler, E. G. (1986). *Research Interviewing: Context and Narrative*. Harvard University Press, London.
- Murray, K. and MacDonald, R. (1997). The disjunction between lecturers' conceptions of teaching and their claimed educational practice. *Higher Education*, 33, 331-349.
- Nicholls, G. (2005). New lecturers' constructions of learning, teaching and research in higher education. *Studies in Higher Education*, 30, 611-625.
- Nixon, J. (1996) Professional identity and the restructuring of higher education. *Studies in Higher Education*, 21, 5-16.
- Norton, L., Richardson, J. T. E., Hartley, J., Newstead, S. and Mayes, J. (2005). Teachers' beliefs and intentions concerning teaching in higher education. *Higher Education*, 50, 537-571.
- Nyquist, J.D. and Wulff, D. H. (1996). *Working effectively with graduate assistants*. Thousand Oaks, Sage.
- Perry, W. G. (1970). *Forms of intellectual and ethical development in the college years*. New York: Holt, Rinehart and Winston.
- Pickering, A. (2006). Learning about university teaching: reflections on a research study investigating influences for change. *Teaching in Higher Education*, 11, 319-335.
- Pill, A. (2005). Models of professional development in the education and practice of new teachers in higher education. *Teaching in Higher Education*, 10, 175-188.

- Pintrich, P. and McKeachie, W. (2000). A framework for conceptualizing student motivation and self-regulated learning in the college classroom. In Pintrich, P. and Ruohotie, P. (Eds) *Conative constructs and self-regulated learning*. (Saarijärvi, Finland, Research Centre for Vocational Education and The Okka Foundation for Teaching , Education and Personal Development).
- Postareff, L. and Lindblom-Ylänne, S. (2008). Variations in teachers' descriptions of teaching: Broadening the understanding of teaching in higher education. *Learning and Instruction*, 18, 109-120.
- Postareff, L., Lindblom-Ylänne, S. and Nevgi, A. (2007). The effect of pedagogical training on teaching in higher education. *Teaching and Teacher Education*. 23, 557-571.
- Pratt, D. D. (1992). Conceptions of teaching. *Adult Education Quarterly*, 42, 203-220.
- Prosser, M., Ramsden, P., Trigwell, K. and Martin, E. (2003). Dissonance in experience of teaching and its relation to the quality of student learning. *Studies in Higher Education*, 28, 37-48.
- Prosser, M. and Trigwell, K. (1997). Relations between perceptions of the teaching environment and approaches to teaching. *British Journal of Educational Psychology*, 67, 25-35.
- Prosser, M. and Trigwell, K. (1999). *Understanding learning and teaching: The experience in Higher Education*. Buckingham, SRHE and Open University Press.
- Prosser, M. and Trigwell, K. (2006). Confirmatory factor analysis of the Approaches to Teaching Inventory. *British Journal of Educational Psychology*, 76, 405-419
- Prosser, M., Trigwell, K., and Taylor, P. (1994) A phenomenographic study of academics conceptions of science learning and teaching. *Learning and Instruction*. 4, 217-232.
- Reason, P and Rowan, J (1981) *Human Inquiry: a Source Book of New Paradigm Research*. Chichester: Wiley.
- Richardson, J. T. E. (1999) The concepts and methods of phenomenographic research. *Review of Educational Research*, 69, 53-83.
- Säljö, R. (1997). Talk as data and practice – a critical look at phenomenographic inquiry and the appeal to experience. *Higher Education Research and Development*, 16, 173-190.
- Samuelowicz, K. and Bain, J. D. (1992). Conceptions held by academic teachers. *Higher Education*, 24, 93-111.

- Samuelowicz, K. and Bain, J. D. (2001). Revisiting academics beliefs about teaching and learning. *Higher Education*, 41, pp299-325.
- Sandberg, J. (1997). Are Phenomenographic Results Reliable? *Higher Education Research and Development*, 16, 203-212.
- Schön, D. A. (1983). *The Reflective Practitioner: how professionals think in action*. New York, Basic Books.
- Sharpe, R. (2004). How do professionals learn and develop? Implications for staff and educational developers. In Baume, D. and Kahn, P. (Eds) *Enhancing Staff and Educational Development*. London, RoutledgeFalmer.
- Shulman, L. S. (1987). Knowledge and Teaching: Foundations of the New Reform. *Harvard Educational Review*, 57, 1-22.
- Shulman, L. S. (2004). *Teaching as Community Property. Essays on Higher Education*. San Francisco, Jossey-Bass.
- Silverman, D. (2000). *Doing Qualitative Research. A practical Handbook*. London, Sage.
- Sperandeo-Mineo, R. M., Fazio, C. and Tarantino, G. (2005). Pedagogical Content Knowledge Development and Pre-Service Physics Teacher Education: A Case Study. *Research in Science Education*, 36, 235-268.
- Stenhouse, L. (1988). Case study methods. In Keeves, J. P. (Eds) *Educational Research Methodology, and Measurement: an International Handbook*, 1<sup>st</sup> Ed. Oxford, Pergamon.
- Trigwell, K. and Prosser, M. (1996a). Changing Approaches to teaching: A relational perspective. *Studies in Higher Education*. 21, 3, 275-284.
- Trigwell, K. and Prosser, M. (1996b). Congruence between intension and strategy in university science teachers' approaches to teaching. *Higher Education*, 32, 77-87.
- Trigwell, K. and Prosser, M. (1997). Towards an understanding of Individual Acts of Teaching and Learning. *Higher Education Research and Development*, 16, 241-252.
- Trigwell, K. and Shale, S. (2004). Student learning and the scholarship of university teaching. *Studies in Higher Education*, 29, 523-536.
- Trigwell, K., Prosser, M. and Taylor P. (1994). Qualitative differences in approaches to teaching first year university science. *Higher Education*, 27, 75-84.

- Trigwell, K., Prosser, M. and Waterhouse F. (1999). Relations between teachers' approaches to teaching and students' approaches to learning. *Higher Education*, 37, 57-70.
- Van Driel, J. H., Verloop, N., Van Werven, H. I. & Dekkers, H. (1997). Teachers craft knowledge and curriculum innovation in higher engineering education. *Higher Education*, 33, 1-18.
- Viskovic, A. (2006). Becoming a tertiary teacher: learning in communities of practice. *Higher Education Research and Development*, 25, 323-339.
- Webb, G. (1997). Deconstructing deep and surface: Towards a critique of phenomenography. *Higher Education*, 33, 195-212.
- Wenger, E. (1998) *Communities of Practice: Learning, Meaning and Identity*, Cambridge: Cambridge University Press.
- Wengraf, T. (2001) *Qualitative research interviewing: biographic, narrative and semi-structured methods*. London, Sage.
- Yin, R. K. (1993). *Applications of Case Study Research*. London, Sage.